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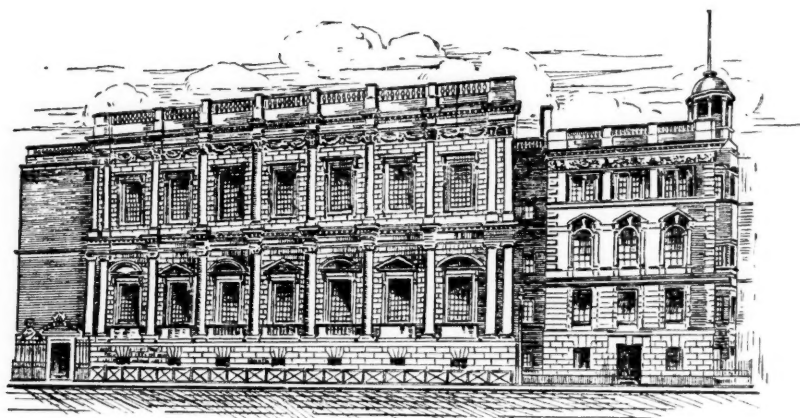
# JOURNAL *of the* Royal United Service Institution.



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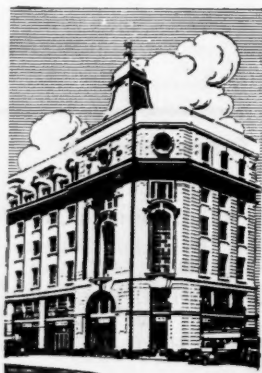
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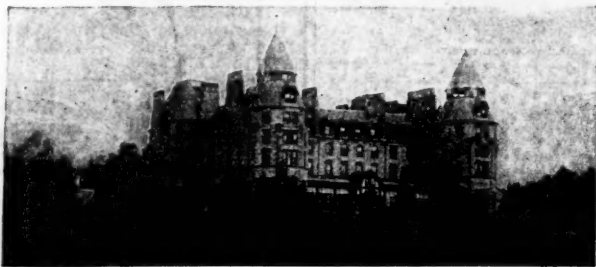
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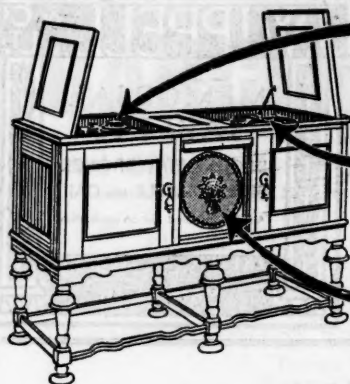


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| 1876. Lieutenant J. F. G. Ross of<br>Bladensburg, Coldstream Guards.       | 1903. Lieutenant A. C. Dewar, R.N.  |
| 1877. Captain Philip H. Colomb.  | 1904. Lieut.-Colonel C. E. D. Telfer-<br>Smollett, 3rd Bn. South Staf-<br>fordshire Regiment. |
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| 1880. Captain J. K. Trotter, R.A.  | 1907. Lieut.-Colonel A. F. Mockler-<br>Ferryman, Reserve of Officers.                         |
| 1881. Captain L. Brine, R.N.   | 1908. Major A. B. N. Churchill, R.G.A.  |
| 1882. No Medal awarded.  | 1909. No Medal awarded.   |
| 1883. Captain C. Johnstone, R.N.   | 1910. Captain P. W. Game, R.H.A.  |
| 1884. Captain G. T. Browne, North-<br>amptonshire Regiment.                | 1911. Captain H. T. Russell, late<br>R.G.A.   |
| 1885. Lieutenant F. C. D. Sturdee,<br>R.N.                                 | 1912. Commander K. G. B. Dewar,<br>R.N.   |
| 1886. Captain C. E. Callwell, R.A.   | 1913. Major A. Lawson, 2nd Drags.   |
| 1887. No Medal awarded.  | 1914-15-16-17. No Medals awarded.   |
| 1888. Captain J. F. Daniell, R.M.L.I.                                      | 1918. Lieutenant W. S. R. King-Hall,<br>R.N.  |
| 1889. Captain H. F. Cleveland, R.N.  | 1919. Colonel J. F. C. Fuller, D.S.O.,<br>Oxford & Bucks L.I.                                 |
| 1890. Captain G. E. Benson, R.A.   | 1920. No Medal awarded.   |
| 1891. Captain R. W. Craigie, R.N.  | 1921. Flight-Lieutenant C. J. Mackay,<br>M.C., D.F.C., R.A.F.                                 |
| 1892. Lieut.-Colonel J. Farquharson,<br>C.B., R.E.                         | 1922. Major R. Chenevix-Trench,<br>O.B.E., M.C., Royal Corps of<br>Signals.                   |
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| 1894. Major F. B. Elmslie, R.A.  | 1924. Major L. I. Cowper, O.B.E.,<br>King's Own Royal Regiment.                               |
| 1895. Commander J. Honner, R.N.  | 1925. Lieut.-Colonel J. C. Dundas, D.S.O.,<br>Royal Tank Corps.                               |
| 1896. Captain G. F. Ellison, Queen's<br>Royal West Surrey Regiment.        | 1926. No Medal awarded.   |
| 1897. Commander G. A. Ballard, R.N.  |   |
| 1898. Captain W. B. Brown, R.E.  |   |
| 1899. Commander G. A. Ballard, R.N.  |   |
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- |  |   |
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| 1900. Captain A. T. Mahan, United<br>States Navy.        | 1914. Sir Julian S. Corbett, LL.M.,<br>F.S.A.       |
| 1907. Major-General Sir J. F. Maurice,<br>K.C.B., p.s.c. | 1919. Major-General E. D. Swinton,<br>C.B., D.S.O.  |
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## SECRETARY'S NOTES

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*August, 1927.*

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#### Vice-Presidents.

The Council regret to have to record the death of Admiral-of-the-Fleet Lord Walter Kerr, G.C.B., a Vice-President of the Institution. He was a Life Member and was elected a Member of the Council in 1907, Chairman of the Council in 1908-9, and became a Vice-President in 1912.

Admiral-of-the-Fleet Earl Jellicoe, G.C.B., O.M., G.C.V.O., LL.D., has been appointed a Vice-President of the Institution vice the late Admiral-of-the-Fleet Lord Walter Kerr.

#### Council.

Lieutenant-General Sir E. Peter Strickland, K.C.B., K.B.E., C.M.G., D.S.O., and Major-General H. F. Thuillier, C.B., C.M.G., having resigned from the Council on taking up Commands abroad and in Scotland respectively, Lieutenant-General Sir W. Hastings Anderson, K.C.B., and Lieutenant-General Sir David G. M. Campbell, K.C.B., have been elected to fill the vacancies.

#### New Members.

The following Officers joined the Institution during the months of May, June and July:—

#### Navy.

Admiral-of-the-Fleet Earl Jellicoe, G.C.B., O.M., G.C.V.O., LL.D.  
Admiral-of-the-Fleet Sir C. E. Madden, Bart., G.C.B., G.C.V.O., K.C.M.G.,  
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Lieutenant E. K. Le Mesurier, R.N.

Sub-Lieutenant L. K. A. Block, R.N.

Captain F. R. Jones, Royal Marines.

Captain K. E. Previte, Royal Marines.

Commander B. Hughes-Hallett, Royal Indian Marine (retired).

Lieutenant C. H. Pullen, late Royal Naval Volunteer Reserve.

**Army.**

Captain C. E. Tinney, Indian Army.  
Captain G. A. Fullerton, Indian Army.  
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Captain C. Southgate, M.C., Indian Army.  
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Captain R. Scott, Royal Scots.  
Lieutenant L. B. Oatts, Highland Light Infantry.  
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Captain W. H. Blagden, Royal Engineers.  
Second-Lieutenant R. A. Bramwell-Davis, Highland Light Infantry.  
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Colonel A. H. McCleverty, Indian Army.  
Lieutenant M. R. R. Prentice, Royal Engineers.  
Captain G. T. M. Allan, M.B.E., Royal Fusiliers.  
Captain F. I. de la P. Gayforth, Royal Engineers.  
Captain N. R. Harvey, Rifle Brigade.  
Captain W. R. Darnell, 22nd Bn. London Regiment (T.A.).  
Second-Lieutenant J. F. Seignior, Royal Artillery (T.A.).  
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Flight-Lieutenant B. J. Silly, M.C., D.F.C., Royal Air Force.  
Squadron-Leader F. G. Hards, D.S.C., D.F.C., Royal Air Force.

**Programme of Lectures, 1927-28.**

The Programme of Lectures for 1927-28 is in active preparation and the usual card of fixtures will be circulated to Members about September.

**A National Naval Museum.**

At the annual meeting of the Society for Nautical Research, held at the Royal United Service Institution on 8th June, the Chairman, Admiral Sir George Hope, announced that arrangements had been concluded for the establishment

of a National Naval and Nautical Museum at Greenwich, in the Queen's House, which will be vacated by the Royal Hospital School on its transfer to Holbrook, Suffolk. The co-operation of the Admiralty and the Office of Works has been secured, and a beginning has been made with the work of renovation and restoration necessary to fit the building for its new purpose.

In connection with this announcement it may be as well to assure Members that the new Museum will in no way impair the status of the R.U.S.I. Museum; nor is there any intention of transferring any of our exhibits. We shall continue to enjoy the privileges and standing of the parent Service Museum.

The new establishment will be welcome, as it will help to further those naval and maritime interests which form an important part of our Charter, but to which it is impossible to devote more than a limited space in the Institution premises.

### **The Sir Arthur Leetham Testimonial Fund.**

The Sub-Committee of the Council dealing with this report that up to the present £453 17s. 4d. has been subscribed by 642 Members.

The presentation will take place at the Annual General Meeting on the 6th March next, and will take the form of :—

- (1) An oil painting (after the style of Canaletto) of the Palace of Whitehall of the period of King Charles II. The artist selected to paint the picture is Mr. Thomas Derrick.
- (2) A large silver cup after the design of the one in the Museum presented to General Sir John Hearsey by the Officers of the Bengal Cavalry in 1846, but substituting figures of the 13th and 20th Hussars and the Royal Monmouth Engineers for those of the Bengal Cavalry. This is being made by Mr. Dimes, who is attached to the Museum staff.

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The Taking of Buenos Ayres.  
Orthes.  
Louisburg.

### **Pamphlet Copies of Lectures.**

A few remaining copies in pamphlet form of most of the more recent lectures are available and can be supplied to Members for 6d. each, post free.

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**LIBRARY.****Facilities for Borrowing Books.**

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**Rules Governing Return of Books.**

The attention of Members is invited to the following regulations governing the retention and return of books:—

1. Certain books for which there is special demand must not be retained longer than a fortnight after date of receipt. A notice to this effect will be found in the book.
2. *In the United Kingdom.*—Books must normally be returned within one month of the date of issue; but the Librarian is authorised to make extensions of one month at a time on application by a Member, up to a maximum of three months from date of issue, if the work is not required by another Member.
3. *All Stations Abroad.*—Books must not be retained more than seven months from date of issue.



Members are specially requested to conform strictly to these regulations, as failure to do so causes much inconvenience to others and involves the Institution in unnecessary expense, and clerical labour.

## MUSEUM.

### Naval History in Ship Models—Special Exhibition.

In the course of the next quarter there will be a special Exhibition in the crypt of the Museum of conjectural water-line models illustrating "The King's Ships throughout the Centuries."

These were originally made for the British Empire Exhibition and are being lent to the Institution for a limited period by arrangement with the Department of Overseas Trade.

### Jutland Model and Plans.

Another exhibit of naval interest recently added to the Museum is a model of the whole Grand Fleet as it was constituted and organized immediately prior to the battle of Jutland together with authentic plans of the course of the action.

### Additions.

- (7938) The head of a Drum-Major's Staff, probably taken during the Napoleonic Wars.—Given by Malcolm G. A. Graham, Esq.
- (7939) A small gold watch, which, when in the tunic breast pocket of Lieutenant R. T. Hare, Bengal Artillery, was struck by a bullet during the Siege of Delhi (Indian Mutiny), thus saving his life.—Bequeathed by the late Lieutenant-Colonel R. T. Hare, Bengal Staff Corps.
- (7940) A water-colour sketch of the attack on Fort Monahur during the Southern Mahratta Rebellion, 1844-5, by the 2nd Queen's Regiment.—Given by W. G. Stroud, Esq.
- (7941) An Officer's epaulette of the Madras Engineers, of about 1857, formerly worn by the late Major-General F. A. Howes, R.E.—Given by F. W. Fladgate-Howes, Esq.
- (7942) A caricature engraving by Robert Cruikshank, dated 1827, entitled "Football."—Given by F. W. Fladgate-Howes, Esq.
- (7943) A gold watch with gold fob chain and two seals, in a Rose-wood case, formerly the property of Lieutenant-General Sir John Moore, K.B.—Bequeathed by the late Lieutenant-General Sir Arthur Lyttleton-Annesley, K.C.B., K.C.V.O.
- (7944) A set of wooden drill blocks of early 1800, issued to Battalion Sergeant-Majors for instructional purposes.—Given by D. H. Boggis-Rolfe, Esq.

- (7945) A pair of Colours of the 6th Regiment, British Legion of Spain commanded by Lieutenant-Colonel Ross.—Given by Professor H. A. Omerod.

### Attendance.

The amount taken for admission to the Museum during the past quarter was :—

£75 9s. 6d. in May.

£109 19s. 6d. in June.

£125 3s. 6d. in July.

### Purchase Fund.

This Fund was opened with the object of purchasing suitable exhibits, which from time to time are offered to the Museum, or are put up for sale at various auctions. The Council hope it will receive support from Members of the Institution who are interested in the Museum.





*Reproduced from The History of The Commanight Ramagers.*

**SERINGAPATAM.**  
4th May, 1799.

*By kind permission.*

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should be addressed to the Secretary, Royal United Service Institution.]

INDIA OF TO-DAY

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By the RIGHT HON. THE EARL OF RONALDSHAY, P.C., G.C.S.I., G.C.I.E.  
On Wednesday, 9th February, 1927, at 3 p.m.

THE MOST HON. THE MARQUIS OF READING, P.C., G.C.B., G.C.S.I.,  
G.C.I.E., G.C.V.O., in the Chair.

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THE CHAIRMAN : I need scarcely say that it is a great pleasure to me to be looking forward to an address by Lord Ronaldshay, who requires no introduction from me to you. He is one of the most competent men to speak with authority upon India. You are aware that he served in India as Governor of Bengal, and that I had the pleasure of co-operating with him towards the end of his period of office. He is also known to us as an author of some fascinating works which have taught us to understand more about India, and also, I believe, have led to our greater sympathy with India.

"India of to-day" is the subject of his address. You are aware that India of to-day is administered under the Montagu-Chelmsford Reforms, which have now been in operation since early in 1921, when they were inaugurated by H.R.H. the Duke of Connaught. Three Councils have been elected under the new system, since the elections at the end of 1920. In the first there was a movement which led to what was called Non-co-operation. It meant that a large number of the population, and especially of the leading politicians, abstained from taking any part in the elections inasmuch as they refused to accept them. The Reforms were unfortunately inaugurated under unfavourable auspices. There had been the Punjab disturbances which seriously affected the Hindus, and then the Khalifat movement, which again had considerable influence on the Mohammedan

population. The consequence was that in the first Councils it may be said that only a portion of the population throughout India took any part. In the second Councils there was a different situation. Mr. Gandhi was no longer at the head of the movement; others had taken his place. The Swarajist political agitation had developed; its adherents, as a consequence and as part of an avowed policy, entered the Councils, as stated in their manifesto, for the purpose of obstructing the Reform movement from within the Councils instead of as hitherto from without. The second Councils also came to an end last year. At the end of last year the third Councils were elected, and at present they are in operation in the various provincial Councils and in the Legislative Assembly for all India. Lord Ronaldshay, with all his knowledge and the authority of one who has studied this question deeply, will now address you upon the whole question.

The Reform movement, I would remind you, is based upon the evolution of democratic institutions in this country. It has been said at times in India that this was a mistaken policy, and that we should have asked India to develop her own Constitution according to Indian ideas and framed on Indian principles. Let me remind you that something like a year ago the Secretary of State, Lord Birkenhead, in a speech, invited Indians to put forward any views they held and to place before us any Constitution they might devise for the purpose of arriving at a solution of the problem if they wished to do so. I myself in India took the same course. Nothing so far has been presented to us, and the agitation continues until this moment, based upon the Constitution framed in the Government of India Act of 1919, the only real division of opinion being as to the extent to which fuller powers should be conferred upon these Councils, and whether or not there should be a very rapid forward movement in the development of responsible self-government. That is the situation at this moment. With those words I shall leave Lord Ronaldshay to address us.

### LECTURE.

INDIA has made great strides forward in many directions during recent years, and in none has she made more striking progress than in that of Constitutional development. The rapid evolution of self-governing institutions in that important constituent of the British Empire commands our sympathy and—since Parliament is responsible in the main for the form which it has assumed—demands our scrutiny.

Let me trace, briefly, the history of events which have given rise to the present state of things. I need not go further back than the beginning of the present century. Certainly, ideas of self-government were germinating in the minds of many educated Indians before that date; but self-government does not necessarily mean Parliamentary Government; and it was not until the year 1909 that a Constitution which contained the germs of Parliamentary Government in the modern meaning of that term was first set up on Indian soil. The Constitution of 1909 was a compromise between the views of the Viceroy, Lord Minto, and those of the Secretary of State, Lord Morley. Lord Minto's original scheme, circulated for the opinion of the Local Governments in India



in 1907, was a moderate one which aimed at associating with the Viceroy and Lieutenant-Governors and other Civil Service officials in the task of administration, representatives of the landed aristocracy of India, of the mercantile and industrial classes, and of the middle and professional classes of moderate outlook, who, under the conditions then existing, had no sufficient inducement to enter political life and found little scope for the exercise of their legitimate influence. Lord Morley gave to this conservative scheme a somewhat more liberal bias, and in the end the scheme provided for the establishment of Legislative Councils with considerable powers of control over legislation and able to bring no little influence to bear on the Government in respect of its policy and administration. There had, of course, been legislative bodies in India before the Act of 1909; but they had been in no sense representative institutions, and the feature of the Constitution of 1909 was the composition of the new Legislative Councils. They were composed partly of official and partly of non-official members who in their turn were appointed partly by nomination and partly by a system of indirect election. In the case of the Provincial Legislative Councils—though not in the case of the Central Legislative Council of the Governor-General—there was a majority of non-official members.

It always seemed to me that the Constitution of 1909 contained the germs of Parliamentary Government. But neither Lord Morley nor Lord Minto was willing to subscribe to the view, either that Indian conditions admitted of such a form of Government or that the Constitution for which they were responsible was intended to lead up to it. Lord Morley declared with some emphasis that he would have nothing to do with any reform which would be likely to lead to the establishment in India of a Parliamentary system. Lord Minto was equally emphatic. "We have distinctly maintained," he declared in the course of the speech with which he opened the new Imperial Legislative Council on the 25th January, 1910, "that representative government in its Western sense is totally inapplicable to the Indian Empire, and would be uncongenial to the traditions of Eastern peoples—that Indian conditions do not admit of popular representation—that the safety and welfare of this country must depend on the supremacy of British Administration—and that that supremacy can, in no circumstances, be delegated to any kind of representative assembly. We have aimed at the reform and enlargement of our Councils, but not at the creation of Parliaments."

How rapidly opinion in such matters was changing was dramatically demonstrated when in August, 1917, only seven years after these declarations were made, the Government of Great Britain solemnly announced in the House of Commons that their policy in regard to India was "the gradual development of self-governing institutions with a view to the progressive realization of responsible Government in that country." And having made this momentous statement they very

properly added that they had decided that substantial steps should be taken in this direction with the least possible delay.

Now before I go on to examine the nature of the steps which were taken in consonance with this announcement, let me pause for a moment to consider the extent of the difference between the point of view of Lord Morley and Lord Minto in 1910, and that of His Majesty's Government in 1917. As to the end to be aimed at I do not think there was any conflict of view at all. Lord Morley and Lord Minto equally with the Government of 1917 aimed at transferring control over the internal administration of the country by gradual stages from the hands of its British rulers to the peoples of the country themselves. In other words, the ultimate aim of both was the granting of self-government to India. But whereas Lord Morley and Lord Minto held the view that Parliamentary Government in its Western sense was inapplicable to India and was generally uncongenial to the sentiments and traditions of Eastern peoples, the Government of 1917 specifically laid it down that it was the establishment of Parliamentary Government as understood in the West, that was the goal at which they aimed. I lay stress upon this because it has been my experience that many people fall into the error of regarding "self-government" and "responsible government" as interchangeable terms. They are nothing of the sort. No one, for example, would deny that Japan is a self-governing country, yet no one familiar with the Japanese Constitution would claim that there was in Japan responsible government in the technical sense of that term. When Lord Chelmsford and Mr. Montagu drew up their report in which they sought to devise a scheme for giving effect to the policy which had been announced, they very properly commented on the magnitude of the change which it was sought to introduce. They regarded the declaration as "the most momentous utterance ever made in India's chequered history." And of the policy itself they said—"The policy, so far as Western Communities are concerned, is an old and tried one. Englishmen believe in 'responsible' government as the best form of government that they know; and now in response to requests from India they have promised to extend it to India also."

The only possible interpretation of this last sentence is that public opinion in India was demanding Parliamentary Government on the English model. Now I venture respectfully to suggest that India was demanding nothing of the sort. I could give many reasons for my view. Let me quote, in the first place, the opinion of a very eminent and cultured Indian gentleman, H.H. the Aga Khan. "The Indian peoples," he asserted, "with an instinctive sense of their need, have asked for self-government within the Empire, not for Parliamentary institutions on the British model." And he went on to point out that none of the draft schemes prepared by Indians, hypothecated full and immediate responsibility of the Executive to the Legislature. "It would be a disaster," he declared, "for India to be forced into the narrow form

of Constitutionalism that developed with its essential condition of two great rival parties in England through historical and natural causes." Then, again, let me quote the views of another cultured Indian gentleman who represented interests and opinions differing widely from those for which H.H. the Aga Khan stood. I refer to the late Mr. C. R. Das, who from the time of the declaration of 1917 until his death in 1925 was recognised as one of the most authoritative exponents of the views of the more advanced wing of the Hindu Nationalist Party. As President of the Indian National Congress in 1922, Mr. Das made a pronouncement on the subject of the system of self-government best suited to India. After stating that in his belief the Parliamentary form of Government introduced from the West did not in practice work out as government by the people and for the people, he went on to give a sketch of the sort of system on which true Indian Home Rule ought to be based. The outstanding feature of the scheme which he sketched in rough outline, was the decentralisation of power as opposed to its centralisation. He desired to see large powers vested in bodies representing the village, the functions of the Provincial Governments and of the Central Government—that is to say the Government of India—being in the main advisory with a residuary power of control only in case of need and to be exercised under proper safeguards. It is unnecessary to enter further into the details of the scheme which he put forward. It is sufficient for my purpose to point out that it differed fundamentally from the British conception of Parliamentary government. I might also quote the example of Mysore, a self-governing Indian Native State which since the passage of the Act of 1919 for British India has framed a modern Constitution for itself, the aim of those who drafted it being to devise a system of government which, while taking cognisance of present-day tendencies throughout the World, should yet be based on Indian rather than on Western theory, and should give expression to Indian rather than to European ideals. I have given a sketch of this interesting experiment in Constitution-making elsewhere<sup>1</sup>; and here, again, I need do no more than point out that it differs in many important respects from the Constitution of this country.

If then, we compare the attitude of Lord Morley and Lord Minto on the one hand with that of the Cabinet of 1917 on the other, we must conclude, I think, that the former displayed much greater imagination, and a truer perception of the nature of the problem with which British statesmanship was called upon to deal than the latter. The attitude of the Cabinet of 1917 was typically British. They took the view that what suited the British people must necessarily suit everybody else. I am afraid we have always been a little disposed to think that everything which we ourselves evolve must necessarily be perfect. The British attitude in this respect was once well voiced by a certain Mr. Fuller, a Member of the House of Commons in 1809—"If you do not like the

<sup>1</sup> In "The Heart of Aryavarta."

country," he declared, "well, damn you, you can leave it." And many foreign observers have been struck with this amiable characteristic of ours. You may perhaps recall Ralph Waldo Emerson's delighted discovery that the Englishman "sticks to his traditions and usages, and, so help him, God! he will force his island by-laws down the throat of great countries like India, China, Canada and Australia." He did not bring this against us as an accusation, for he was a great admirer of British character; he merely stated it as a fact.

Well that seems to have been the attitude of the Cabinet of 1917. Parliamentary Government was the product of English genius; Parliamentary Government must, therefore, be the last word in Constitutional Statesmanship, and Indians so help them God! should have a Parliamentary Constitution on the British model, or no Constitution at all.

There is, of course, the alternative possibility that the apparently innocent but in reality vitally significant word "responsible," slipped into the Declaration not of set purpose but because it sounded well, or possibly as the result of pure accident. Some people would say that that also would be entirely in accord with English tradition.

However, from the point of view of those in India who had to give effect to the Government's behest, it did not so much matter how the word got into the Declaration as that it was there and could not be ignored. Let me remind you once more of the terms of the Announcement as made by Mr. Montagu on the 20th August, 1917—"The policy of His Majesty's Government . . . is that of the increasing association of Indians in every branch of the administration, and the gradual development of self-governing institutions, *with a view to the progressive realization of responsible Government* in India, as an integral part of the British Empire." The only interpretation that could be placed on these words was that His Majesty's Government had decreed for India a Constitution on the English model the fundamental feature of which is an Executive *responsible* to a popular Assembly, the members of which are in their turn *responsible* to an electorate. And those who were charged with the duty of giving effect to the edict had no option but to evolve a scheme in accordance with the instructions thus laid down.

And here at the very start was a portentous difficulty. Parliament had said that the development of the self-governing institutions, which it desired to set up, was to be gradual. How was responsible self-government to be introduced gradually? That was the rub. And it was out of this difficulty that emerged the unique form of constitution to which was given the name of Dyarchy. A great deal of ridicule and abuse has been heaped upon this ingenious, if complicated, compromise—mostly by people who had the slenderest knowledge of what Dyarchy was. As one of those who played a humble part in fashioning it, and who subsequently presided over its working in Bengal, I may at least claim

to know something of its nature. And I shall be able to show, I think, that if the orders of Parliament were to be obeyed, Dyarchy was the only possible constitution.

Let us consider now the steps that had to be taken to give effect to the Declaration.

The first step was to create an electorate, since without an electorate there could obviously be no Parliament on the English model. Even on paper this was not easy. To begin with the Muhammadans, even during the height of the Hindu-Moslem *entente*, were not for a moment prepared to risk their representation in the new Parliament, to an electorate composed even partially of Hindu voters; and the principle of Communal representation had to be conceded. A similar concession was made in the case of the Sikhs in the Punjab. In practice the elective principle is subject to other difficulties in India which do not arise in this country. They may be illustrated by an example. During my Governorship of Bengal the nominated members of a local board objected to sitting with members elected to the same body, on the ground that the latter might be persons who, according to the social customs of the country, should stand in their presence. In the case of another election for a municipal board, seven out of eight candidates withdrew at the polling booth because the eighth was a man of low caste with whom they were forbidden by their caste rules to associate. Moreover, it was often difficult in practice to persuade the electors to take an intelligent or, indeed, any sort of interest in the elections. I recall a case of a ward election to a municipal board in which twelve candidates stood for two vacancies and only thirty-seven voters went to the poll.

Nevertheless these difficulties were either ignored or overcome, and an electorate was brought into being. In Bengal we created with a stroke of the pen an electorate of upwards of a million voters. We then proceeded to invite the Moslems among the new electorate to elect thirty-nine of their co-religionists to represent them in the new Parliament and the Hindus to elect forty-six of their community to represent them. The remaining seats in a Parliament of 139 members were filled partly by nomination and partly by election by special constituencies, such as Chambers of Commerce, large landholders, the European population and so on. In this way a Parliament was created for Bengal.

But it was when it came to making the Government gradually responsible to this Parliament that the real difficulty began. Hitherto the Government had been responsible through the Secretary of State to the Parliament of Great Britain. In theory there was no difficulty in relieving it of its responsibility to the British Parliament and making it instead responsible to the Parliament of Bengal. But Parliament had said very definitely that this was to be done gradually. Could responsibility be transferred gradually, and if so how? Was there any



possible half-way house between an Executive which was wholly independent of the Bengal Parliament and an Executive which was wholly responsible to it? There was, I venture to say, only one possible way in which this could be done, namely, by dividing the field of administration into two parts, handing one part to a Government consisting of Ministers chosen from the Bengal Parliament and responsible to it; and retaining the other part in the hands of a Government consisting as before of a Council responsible for its actions to the Secretary of State. This was, indeed, what was done, not because so complicated a device was regarded with favour by anyone on its merits, but because, as I have said, there was no other way of giving effect to the edict of Parliament. The Executive under this new Constitution thus consisted of two separate bodies held loosely together by the Governor of the Province who was armed with tolerably wide reserve powers of veto and delay to enable him to drive this oddly assorted pair. It was certainly a novel type of Cabinet, a sort of political Siamese twins with the Governor as the umbilical cord holding them together. Like the two-headed eagle of Byzantium, it looked East and West, the Ministry to the Indian Parliament, the Executive Council to Westminster and Whitehall. Its advantage in theory was that from time to time further portions of the field of administration could be detached from the Executive Council and added to the Ministry until at last the whole had been so transferred, when India would have been equipped with full responsible self-government on the English model. During the transitional and—it was fondly hoped—probationary period which is now in full swing, the Executive Council was to be the link with the past designed to give stability to the whole, while the Ministry was to constitute, of course, the antennæ of the organism reaching forwards towards the future. The Dyarchic Government thus resembles the famous founder of Janiculum, so conveniently dowered with two faces, the better to look forward while maintaining an eye on what lay behind. For its motto it could not have done better than adopt two lines by Colman :—

“ In two-faced Janus we this moral find—

While we look forward, we should glance behind.”

It will be obvious to anyone who has had any experience of administration that a Constitution consisting of such heterogeneous and delicately poised parts, would only be likely to function successfully in a tranquil atmosphere; that goodwill and co-operation on the part of all were essential.

But it was precisely these things that in the case of an important section of the Indian politically-minded classes were found to be lacking. The reason for this is too long a story to tell now; I have dealt with it at length elsewhere.<sup>1</sup> But it may be of interest to you to know what

<sup>1</sup> In “ The Heart of Aryavarta.”



it was that men like Mr. C. R. Das who refused to co-operate in working the Dyarchic Constitution, were prepared to accept in its place.

At the time of the Prince of Wales's visit to India when political turmoil was at its height, when rioting on a vast scale was a thing of daily occurrence, when the gaols of Bengal were overflowing with those who had risen against the Government by law established, so that I was hard put to it to find the additional temporary gaol accommodation which the situation demanded, I invited Mr. Das to come to see me. For an hour or more I discussed the situation with him. On the subject of constitutional reforms he said—"Give us self-government in respect of one quarter of the whole field of administration only, and we will be content." "But," I replied, "under Dyarchy you have already obtained self-government in far more than one quarter of the field, but you and your friends refuse to take it." "No," he replied, "so long as the Governor can interfere with what we do we cannot accept what you offer us as self-government." It will be seen that what Mr. Das wanted to do—if I may revert to my simile of the Siamese twins—was to cut the link between them. The Governor was to cease to have any control over, or, indeed, to have anything at all to do with the Ministry, which was to be free to go its own sweet way unrestricted and uncontrolled by anything beyond its own sweet will. It was in vain that I pointed out to Mr. Das that, even in Great Britain where Parliamentary institutions were deep-rooted in the soil and had reached their present stage as a result of a process of evolution extending over centuries of time, no such licence was permitted to the Cabinet. Quite apart from the check upon its irresponsible abuse of power provided by a very powerful public opinion, for which no counterpart was to be found in India, there was also a Second Chamber which both in theory and in practice acted as a powerful check upon it. All these arguments and many more he brushed aside with a mere repetition of his previous demand. It is perhaps hardly necessary for me to point out that to such a demand no British Government could possibly accede. For if there is one duty which devolves upon its shoulders with greater weight and more pressing insistence than any other, it is that of seeing that in India with its many races and its diverse creeds, its fierce racial and religious animosities, the scales of justice are held even between every section of the vast population committed to its charge. You have only to look at the fierce Hindu-Moslem rioting which has been an almost constant feature in India during the past few years, to realize that no British Government can divest itself of its responsibility by handing over to either community an unrestricted power of government over the other. That is why the demands of men like Mr. Das cannot be acceded to; that is also the reason why—since Parliament has decreed the gradual introduction of responsible self-government—the experiment called Dyarchy must for the present continue in operation.

So much for the genesis of Dyarchy. Two questions naturally present themselves. In the first place you will ask—"How has Dyarchy

worked?" And you will then ask—"What of the future?" In reply to the first question I would say that wherever there has been even a modicum of goodwill on the part of the Legislative Councils Dyarchy has worked surprisingly well. In Bengal it came into operation in the most unfavourable circumstances. The left wing of the Indian Nationalist party under Mr. C. R. Das were carrying on a campaign of unprecedented violence against the new Constitution and all those who were prepared to give it a trial. Consequently no Indian public man could become a Minister without becoming the target of fierce abuse. Nevertheless, I experienced no difficulty in finding three leading men—two Hindus and one Moslem—to undertake the task. It so happened that their task was rendered exceptionally difficult by wholly extraneous circumstances. The financial position of the Province was at the moment a particularly difficult one, and it became clear very soon after the new Ministers took office that if they were to balance their Budget, they would have to ask the new Parliament to vote additional taxation. In India any suggestion of fresh taxation is viewed with a horror and an alarm which we in this country, inured as we are to the Chancellor of the Exchequer piling Pelion upon Ossa in the matter of his exactions, can scarcely conceive. Yet the new Ministers not only submitted proposals for fresh taxation but secured the assent of the newly-elected Parliament to them. I cannot imagine a more searching test of the possibilities of Dyarchy than that. It is, of course, true that the requisite modicum of goodwill was sometimes lacking. In Bengal the Parliament which came into existence as a result of the second General Election held under the new Constitution, refused to vote salaries for any Ministers or to give them the necessary support, and the Governor found himself with an Executive Council to carry on the reserved half of the Administration but with no Ministry to administer the transferred subjects. The extremists were immensely pleased with what they had done. Had they not paralysed the Government and smashed the Constitution? Doubtless this is what they thought they had done. But they had misread the English character. "I find the Englishman to be him of all men who stands firmest in his shoes," wrote Emerson; and this habit of standing firmly in one's shoes is one which has carried Great Britain through many difficulties. No one who was not in India during the years 1920-1922 can have any conception of the violence of the agitation which swept the country under the auspices of Mr. Gandhi's non-co-operation campaign. Yet the tornado broke itself in the end against the wall of phlegmatic and inert resistance which the British people opposed to it. Similarly when Dyarchy was brought to a standstill in Bengal the authorities just stood quietly but firmly in their shoes. Their outlook was that of Mr. Fuller, M.P., a century before—if those for whose benefit the Constitution had been provided did not want it, well, damn them, they need not have it. And they simply retransferred the transferred subjects to the Executive Council and the Government was carried on as it had been before Dyarchy came into existence.

The only thing which the extremists had succeeded in doing was to deprive Bengal of the measure of self-government which it had already been granted.

Within the past few weeks the third General Election under the reform scheme of 1919 has been held. The new Parliament in Bengal has just voted the salaries for two Ministers and Dyarchy has, therefore, been restored. Bengal in 1927 is, consequently, where it was in 1920 when Dyarchy first came into operation.

Then what of the future? Dyarchy is admittedly a temporary expedient, to bridge a period of transition. And the question of supreme importance is whether the next step on the road towards full self-government is to confirm the establishment of responsible government, in other words, to stereotype the English model as the future system of Government for India, or is to permit of any considerable departure—not from the intention to confer upon India full self-government—but from the particular type of constitution which has so far been set up?

In 1929 a Parliamentary Commission is to be sent from this country to enquire into the working of the system and to report upon it. It is not quite clear how wide the powers of the Commission are to be. From the documents that are on record it seems that those who advised the appointment of a periodic Commission of Enquiry intended that it should be a tribunal to decide not whether "responsible" Government was the most suitable form of Government for a self-governing India, but merely how much further along the road towards complete responsible self-government it was advisable at any one moment that she should proceed. Mr. Montagu and Lord Chelmsford, for example, stated that they wished to attain complete responsibility where they could and as early as they could, and they proposed, therefore, that the Commissioner's mandate should be to consider whether it would be possible to establish complete responsible Government in any Province or Provinces, or how far it would be possible to approximate to it in others.<sup>1</sup> And the Joint Select Committee of the two Houses of Parliament which considered the Government of India Bill of 1919, proposed that the Commission should be fully empowered to examine the working of the Provincial constitutions in all their details and to advise whether the time had come for full responsible Government in each Province, or, in the alternative, whether and to what extent the powers of self-government already granted should be extended, or modified, or restricted. You will observe that one word has been employed here—the word "modified"—which seems to leave the door open for a reconsideration of the type of constitution; and the same word—whether by design or by accident, I cannot say—has also crept into the wording of the Act of 1919 itself, which lays it down that the Commission shall report

<sup>1</sup> Montagu-Chelmsford Report on Indian Constitutional Reforms, paras. 261 and 264.

"as to whether and to what extent it is desirable to establish the principle of responsible Government, or to extend, *modify* or restrict the degree of responsible Government then existing therein."<sup>1</sup> In any case the names of the Commissioners have first to be submitted to both Houses of Parliament for approval; and it is probable, therefore, that the Parliament of that day will have something to say on the general question of the scope of the enquiry which the Commission will be expected to undertake. And I noticed that in his address to the Imperial Legislative Assembly on the 24th January last, the present Viceroy stated that Parliament did invite Indian political parties to show whether or not the ultimate structure which Parliament was seeking to erect was one suitable to Indian conditions and Indian needs.<sup>2</sup>

We all know, of course, that it is possible for exotic plants to become acclimatised; and it may well be that Indians who claim to speak for their fellow-countrymen may already have assimilated so completely the theory and practice of the British Constitution as to desire to make no substantial departure from it. Certainly it is for them more than for us to say; but until they do, it seems to me to be an open question.

#### DISCUSSION.

ADMIRAL SIR REGINALD TUPPER, G.B.E., K.C.B., C.V.O.: May I ask what position the Chamber of Princes holds with regard to the Legislature of India? Does the Chamber of Princes have any sort of duty as a kind of Second Chamber?

THE CHAIRMAN: Since no one present seems inclined to take further part in the discussion, I will therefore at once answer the question that has been submitted. The Chamber of Princes stands entirely apart from the Constitution as framed. The Chamber of Princes exists solely for the purpose of discussion of the affairs of the Princes within certain limits laid down, notably, that they must not discuss the affairs of a particular State in its relations to the Government of India. It deals only with general questions that arise, and there are many which affect the Princes. The Chamber of Princes has only this relation to the Government of India—to which at one time there was some objection, which has now disappeared—that they as a Chamber are located in the new Legislature that the Viceroy quite recently opened. In that large circular building there are three chambers provided. There is the Chamber of Princes with its lobbies and its rooms; then there is the Council of State, which is the Upper House of the all-India Legislature, and that has equally its lobbies and its rooms. And then, thirdly, there is the Legislative Assembly, the Indian equivalent to our House of Commons under the Constitution in India, which exists again in its own close confines. But save that they are all three in the same building, the Chamber of Princes has no relation whatever to the other two Chambers. It is true that the Princes not only stand in a special relation to the Viceroy as the representative of H.M. the King-Emperor under the treaties with him, but also under the Constitution they are subject to the decisions of the Government of India.

<sup>1</sup> Clause 84A(2) of the Government of India Act, 1919.

<sup>2</sup> *Times* report of 25th January, 1927.



The Princes are somewhat apprehensive of what may take place when in the future the Constitution is extended, if the decision be to extend it, and when later there will be complete responsible Government, as to the situation between them and the Government of India. That is one of the rather burning questions at the moment with the Princes; but so far as I am able to judge from my own experience with them—and this has been considerable—they desire to maintain their relations as at present rather than risk them in a situation of which they think they are not able to gauge the entire consequences. But that is a matter which is, and will be for some time, a subject of discussion. But whenever you consider the Constitution which has been granted under the Act of 1919 you must eliminate altogether from it the Chamber of Princes which stands quite by itself.

ADMIRAL SIR REGINALD TUPPER: Thank you.

THE CHAIRMAN: I do not know if there are further questions anybody would like to ask, or whether there are any observations any member of the audience would desire to make?

If not—and I gather there is not—I will then, on your behalf (and here I speak with absolute conviction) tender to Lord Ronaldshay a very hearty vote of thanks for the most instructive, interesting and penetrating address he has delivered to us. (Cheers.) The observation I am tempted to make upon it is that, shorn altogether of the complications and the perplexities of the Constitution, devised as it has been in the circumstances well narrated to you by Lord Ronaldshay, one thing stands right out, and that is that the British Parliament are determined to give India a responsible Government in process of time, and that the more quickly India learns to govern herself the more rapidly will the Constitution be extended. There has been no variation from the policy laid down in August of 1917. There have been numbers of Governments. I myself in three and a-half years served with five different Governments in England, and of different complexions as you may be aware—Coalition, Conservative and Labour; but nevertheless no Government varied in its determination to give India responsible Government, and also none of those Governments wavered in the slightest degree in its desire to help India forward as quickly as possible, always remembering that to give responsible Government before India is ready for it would be not to help India but rather to hinder her. (Cheers.)

GENERAL THE RT. HON. THE LORD HORNE, G.C.B., K.C.M.G. (*Chairman of the Council*): May I venture to express on behalf of the Council and of the members of the Royal United Service Institution the appreciation that we feel of the presence of Lord Reading in the Chair. (Cheers.) We have all looked forward with great eagerness to this lecture to-day; neither have we been disappointed. The fact that our lecturer is an ex-Governor of Bengal and that our Chairman an ex-Viceroy of India, both having held office during times of special difficulty, renders us all the more appreciative of their statements. I ask you to join with me in a hearty vote of thanks to Lord Reading for his presence in the Chair to-day.

The resolution of thanks was carried with acclamation.

The meeting then terminated.

## HISTORY AND LEADERSHIP IN WAR

BY REAR-ADMIRAL F. C. DREYER, C.B., C.B.E.

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*(This paper originally formed part of a lecture delivered in 1924 by the author at the Royal Naval War College, Greenwich. At the time of its preparation, there was no idea of it being published, so certain paragraphs extracted from standard works may bear no specific mention of their origin. Where this omission may have occurred, it is now desired to make due acknowledgment.—THE AUTHOR, 23rd April, 1927).*

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WAR is only a part of national policy, and it must consequently be borne in mind that strategy and the conduct of war will always be greatly influenced by political aims and by relations with other countries. For the effective waging of war, therefore, it is necessary to maintain a close co-operation and understanding between those who are in charge of the political, the economic, including the organization of industries for war, and the military, including Navy, Army and Air Force, departments of State. This co-operation and understanding can only be ensured by a study of the history of war no less than by a knowledge of its present day usages and requirements. No clearer proof of this fact could be adduced than the opinions of many great commanders of the past whose success in war must even now arrest attention and cause us to reflect on how far those experiences are applicable to present conditions.

Such a study of history is all the more necessary in our case, since the British temperament is prone to trust to its natural qualities in order to meet and to overcome an emergency at the moment it arises. As Colonel Henderson once put it: "Few Anglo-Saxons are not secretly convinced that with some knowledge of drill they would be most formidable rivals of the German General Staff. . . . They believe that they possess the military virtues, that they are fearless, cool and resolute, and they flatter themselves that they are fitted with sufficient common sense to enable them to decide wisely and promptly in critical situations. Nor is it to be denied, especially in a nation of sportsmen whose familiarity with danger breeds energy and resolution, that so far they are perfectly right. They forget, however, that common sense, to be a really useful guide to the judgment, must be trained common sense, fortified by knowledge and increased by practice."

There are many advantages to be derived from studying the history of war, but I will content myself with naming three of exceptional



importance. Firstly, it provides the basis of a common doctrine which should ensure that the commanders of all the fighting Services will think and act alike in moments of crisis. Secondly, it helps those in high places to face intangible and unforeseen situations and to decide upon a definite course of action, although they are not themselves face to face with concrete dangers. Thirdly, it teaches all officers to deal with the problems of war as part of that high policy which causes nations to take up arms as a necessity to their existence; in short, it constrains every responsible combatant to adapt himself to his true place in the full deployment of national energy to the purposes of the war.

It is only necessary to recall a few examples of famous leaders in the past, to realise how much these great commanders benefited by studying history. Julius Caesar (102-44 B.C.), ever a close student of war, was particularly interested in the campaigns of Alexander the Great; Timur Leng, or Tamorlane (*circa* 1350 A.D.), the conqueror of Western Asia, was a devotee of history and has left some writings known as "Institutes" that might have come from the pen of any great modern commander; Turenne (1611-1675) made a deep study of military history; Frederick the Great devoted whole mornings to study; our own Duke of Wellington, from 1799 to 1815, is said to have set aside four hours daily to reading history. Napoleon himself wrote: "The principles of war are those which have directed the great commanders whose great deeds have been handed down to us by history." He advised a most careful study of the campaigns of the famous leaders of the past. "That," he said, "is the only way of becoming a great captain and to obtain the secrets of the art of war."

The whole matter has been well summed up by Colonel Henderson in his brilliant book "The Science of War" where he says: "In all ages the power of intellect has asserted itself in war. It was not courage and experience only that made Hannibal, Alexander and Caesar the greatest names of antiquity. Napoleon, Wellington and the Archduke Charles were certainly the best educated soldiers of their time, while Lee, Jackson and Sherman probably knew more of war before they made it than anyone else in the United States. But it was not until 1866 and 1870 that the preponderating influence of the trained mind was made manifest. Other wars had shown the value of an educated general; these showed the value of an educated army."

Moltke, born in 1800, and the outstanding authority of the nineteenth century on the theory and practice of war, read an immense amount of history and made Napoleon the main object of his studies. He probed the methods by which the great master had conquered and the reason which led to his final downfall, until it became apparent to him that Napoleon's amazing successes had been due to his personal knowledge and genius.

It was now that, as Colonel Henderson puts it, "taught by the dire disasters of 1806, Prussia set herself to discover the surest means of

escaping humiliation in the future." The shrewdest of her sons undertook the task, and on his investigations a system of organization and training was built up which, not only from a military but from a political and even an economic point of view, is the most striking product of that age.

The result was soon manifest to all. To quote Professor Spenser Wilkinson: "It is well known that the memorandum upon which the opening German moves in 1870 were based had been drawn up by Moltke two years beforehand, and that it was an estimate of the French army, which proved remarkably accurate, and an analysis of the various moves open to the French Commander, followed by the outline of the best positions in which the German armies could be put at the start in order to deal with any of the possible French moves. We do not yet know fully the previous history of the war of 1866, but the way in which Moltke played his game on that occasion proved that he had analysed it more perfectly before it began than most of the critics have been able to do until this day . . . In three weeks from the declaration of war the hostile armies were all either running away or captured. . . . The wise forecasts of what the enemies would do with their forces and the judicious moves which Moltke arranged against them were all his own. They were possible to him because he had worked all his life at strategy and tactics; he had been a quarter of a century in the Intelligence department before he became its head, and he was chosen for that post not for seniority (he was a junior Major-General at the time), but because his great ability as a strategist was recognised by those who had the choice."

Count Schlieffen, who, after Moltke, became Chief of the German General Staff in 1891, summarised the whole question as follows: "Before everyone who wishes to become a Commander-in-Chief there lies a book entitled 'The History of War.' It is not always, I must admit, very amusing; it involves the toiling through a mass of by no means exciting details. By this means we arrive at facts—often soul-stirring facts—and at the root of it lies the perception of how everything has happened, how it was bound to happen, and how it will happen again."

Marshal Foch, a life-long student and professor of war, also gets at the root of the subject when he says, in his "Principles of War": "We must have a practical teaching including application made to particular cases of fixed principles drawn from history, in order—

- (i) To prepare men for the experience of war;
- (ii) To teach the art of commanding;
- (iii) To impart the habit of acting correctly without having to reason."

Again, he says: "Let us examine the facts which history gives us . . . as closely as we can, under a microscope, so to speak . . . let us do this while placing ourselves in the midst of the circumstances under which those facts arose: time, place, temperature, fatigue, numerous depressing

causes, misunderstandings, with the company in its zone of action, the battalion, the brigade, the army corps. Let us see the difficulties they had to conquer and how they overcame them. Let us discuss the decisions taken, the result obtained; let us treat the question anew, then only shall we see the moral factors, so often mentioned, appear during the whole course of the study in their right proportions. Then only are we able to take them into account and to ascribe to them their due place in the result.

"Our teaching . . . has resulted from the sum of such minute studies. *History is the base.* 'The more an army is deficient in the experience of warfare,' writes General de Pencker, 'the more it behoves it to resort to the history of war as a means of instruction and as a base for that instruction. Although the history of war cannot replace acquired experience, it can nevertheless prepare for it. In peace time, it becomes the true means of learning war and of determining the fixed principles of the art of war.'"

In support of my belief as to the necessity for studying the wars of the past I have so far referred to the studies of great military leaders. It is, unfortunately, extremely difficult to make similar quotations from naval histories, few of which are of real value, except those of recent date.

Admiral Colomb, in the Preface to his "Naval Warfare," calls attention to the fact that "ordinary naval histories mainly run in two grooves, the one a mere chronological narrative of events, the other written for the glorification or condemnation of individuals whose characters were judged from isolated and disconnected facts. Historians of bygone days have generally neglected to give any attention to the causes of success or failure in naval war, nor did they connect the facts or events which were necessary for that purpose. Naval commanders, on the other hand, seem to have been so entirely convinced of the force of causes beyond their control, and so satisfied of their obviousness, that they seldom alluded to them." This peculiar trait in the latter has left us largely without the written guidance of their advice to study the history of naval warfare, although we have their letters and despatches and the history of their own deeds to study and analyse.

A careful study of the naval history of England shows the evil effects due to the non-existence in the past of critical and analytical histories of naval warfare, which could be studied by the whole Navy in the periods of peace and enable it to start each war with a clear knowledge of the lessons of the past, instead of having in some cases to refresh its memory by the experience of initial failure before attaining final victory. Exceptional naval officers of the past were able to carry out such a critical analysis in their own minds and there can be no doubt that the functions of Sea Power and the value of studying history were thoroughly understood by England's great naval warriors from the days of Raleigh and Drake onwards to Blake, Hawke, Rodney, Howe, St. Vincent,

Nelson and Hood, up to our leaders in the war of 1914-18. But, in the past, history and its lessons were self-taught. This cannot be a sound system, for such independent study does not ensure the attainment of that ideal of a common doctrine of war, which we cannot claim to have approached during more than two or three periods in our Navy's history, and then only because of prolonged experience of war during those periods.

An exception to the general rule with regard to bygone naval commanders must be made in favour of the great Sir Walter Raleigh, a product of the Tudor Navy, who used his pen and his knowledge of the sea to treat naval warfare analytically. Then, after a lapse of nearly three centuries we have Admiral Colomb and Captain Mahan presenting us with various studies of the larger phases of naval war. To these must be added well-informed civilian writers like Sir Julian Corbett, whose "Trafalgar Campaign" shows us clearly how nearly our Admirals approached the ideal of a common doctrine of war, and such notable students of naval warfare as Professor Sir J. K. Laughton, Dr. Thursfield, Professor Spenser Wilkinson and the valuable publications of the Navy Records Society. All these authorities support the great military writers in emphasising the necessity for studying history as the surest guide to success in the conduct of war.

One reason for this paucity of naval literature is, doubtless, that the civilian historian is usually handicapped by a lack of acquaintance with seamanship and the true character of sea warfare. As Mahan says of a navy: "But, as it acts on an element strange to most writers, as its members have been from time immemorial a strange race apart, without prophets of their own, neither themselves nor their calling understood, its immense determining influence upon the history of that era and consequently upon the history of the world has been overlooked." Speaking of the work of a historian, he says: "We want to study the facts analytically to detect the broad leading features, to assign to them their respective importance, to recognise their mutual relations, and upon this data to frame a scheme of logical presentation."

It is not generally known to what a great extent Mahan was indebted to our Admirals of his time in the compilation of his naval works. They understood their trade but, with the exception of Admiral Colomb, none of them had taken to the pen. They were, however, happy to discuss naval warfare with a brother seaman.

To-day it is becoming increasingly difficult for civilian authors to write accurately about modern naval engagements, for it is not wise to comment on naval tactics without a complete and up-to-date knowledge of the use and capabilities of modern naval weapons and warships. Such knowledge is only possessed by specially experienced naval officers. Nevertheless the fundamental laws of naval war, which were so well understood by the great English seamen throughout the centuries in



which this country had been building up her power are still absolutely dominant.

The great advances made during the 19th century by naval and military historians were of material assistance to our naval and military leaders in the late war, who had benefited by their pre-war studies of the history of war and its lessons. This, in conjunction with their natural ability and qualities and the active practice of their professional duties, led to their great achievements in the war.

It is well-known to naval officers that it was mainly to the genius of Admiral of the Fleet Lord Jellicoe that we owed the efficiency and tactical power of the Grand Fleet. His great ability as a leader in battle was demonstrated at Jutland where the German battle fleet was on the run<sup>1</sup> from the moment that it came in contact with the battleships of the Grand Fleet, until, under cover of mist, smoke screens and darkness it reached its harbours. Although their country was being throttled and starved by the British Navy, the German Fleet were afraid to risk another Jutland, and eventually surrendered without again facing the Grand Fleet.

It is equally well known to naval officers that Lord Jellicoe went to the Admiralty at the end of 1916 to deal with the German submarines, the greatest menace the British Empire has ever had to face. During 1917 he co-ordinated the naval and mercantile marine efforts against the submarines, inspiring and promoting these to such an extent, that when he left the Admiralty at the end of that year, he was able to state that, in his opinion, the submarine menace would be mastered by August, 1918. This forecast, based on adequate knowledge and set out in a clear appreciation of the situation, was found to be accurate. It is therefore of particular interest to students of naval warfare to know that Lord Jellicoe, in addition to constant study of the use of weapons,

<sup>1</sup> Scheer with his battle fleet in single line ahead, pursuing our four "Barhams" and four battle cruisers, had the T of his fleet crossed by Lord Jellicoe's masterly deployment of our main battle fleet.

Scheer turned about and bolted to the Westward, but in desperation turned about shortly afterwards and at 7 p.m. again steamed in single line ahead to the Eastward.

Once more he found himself with the T of his fleet crossed by Lord Jellicoe's fleet which barred the Germans' way home.

Again Scheer turned about and bolted to the Westward, but not until his leading battleships and battle cruisers had been terribly mauled by the gunfire of the Grand Fleet.

Darkness then set in, and Scheer again turning to the Eastward succeeded in bolting into harbour.

Scheer's tactics were obviously those of despair. If he remained in the battle area, he would have to fight it out with the Grand Fleet. He evidently considered it better to keep pressing his attempts to bolt home, as his losses could not be greater than the annihilation which awaited him next day if he remained.

No other explanation can excuse his otherwise elementary tactics in advancing in single line ahead to the Eastward at 7 p.m., which resulted in such terrible damage to his ships and to the morale of their crews.

the capabilities of ships of all types, the training of their officers and ships' companies, as well as the tactical handling of fleets, has always been a close student of history.

Our air leaders had to create their own tradition for the new arm, founded on the principles of war on sea and land as handed down by history. Their victory in the air must have been greatly assisted by this knowledge.

Having eulogised Moltke's scientific method of studying, preparing for, and conducting war, it seems necessary to advance some reasons why the Germans, hitherto regarded as the great exponents of the modern system of command, were beaten in the Great War. It was, I think, by no means the fault of the system, but, put in a few words, the answer appears to be as follows:—

- (i) In 1914-18 the Central Empires were fighting practically the rest of the world, including the dominating sea power. The agitation of the Germans when England came into the war showed what real fear they had of the latter;
- (ii) Most of the armies of the rest of the world had adopted the German system of command since 1870;
- (iii) Germany had not produced efficient substitutes for the Emperor William I, Bismarck or Moltke;
- (iv) Their method of government, by which the Kaiser was automatically the Supreme War Lord with executive control of the fighting services, had worked admirably in the days of Frederick the Great and William I, but failed completely in the hands of William II;
- (v) The German initial failure on land was due apparently to their lack of a dominating mind at headquarters gifted with constancy of purpose. This helped the French and British Armies to stop their advance and brought them under the destructive influence of a sea power from which their navy was unable to free them. The truth as to why their whole navy did not, in January or February, 1915, seek a decision and fight for the command of the sea when their illusions about a short and victorious war had been dispelled, will, I suppose, never be known. We only had at that time, two more "Dreadnought" battleships available in the Grand Fleet than had their High Sea Fleet, i.e., 18 British to 16 German. It is possible that even in those early days they were having trouble with the morale of their men on whom the prestige of the British Navy weighed heavily. They were certainly well aware that for the fifteen years immediately preceding the war, the British Navy had been working at very great pressure and had reached a high state of efficiency in most directions. Indeed, if we had had efficient armour-piercing shell at the beginning, instead of towards the end of the war (a



deficiency which was due to a technical blunder), we might have claimed to have been exceptionally well prepared as compared with other navies of that time.

To return to our principal theme again. Most nations have made immense progress since 1871 in the conduct of war and are continuing to do so, yet I think a word of warning would not be out of place. Let us realise that although we must continue to study war and to strive after the ideal of the "Common Doctrine of War," we shall never completely achieve it—we will get as close to it as we can. We must, of course, analyse and study the war of 1914-18 in order to learn what its lessons may be for future guidance; but in doing so we must be most careful not to be "clever after the event." Those who had to face some of the problems in that war will realise how difficult they were to solve, though they may look easy to others now that all sides of the case are known. One must admit that Admiral von Tirpitz puts this point very clearly in his book, when he writes of "the tendency of men to rate criticism higher than creation, to regard what has been done as a matter of course, and what still remains to be done as an omission."

It is for us to ensure that the study of war shall be encouraged and to strive to make the young officers of our time understand not only its absolute necessity, but also the great efforts they must make to appreciate and fully digest the lessons of the past; they must also learn to apply those lessons to existing conditions in order that there may arise worthy leaders to conduct our wars in the future. To this end, in the Navy, for instance, Cadets are taught naval history and again, as Sub-lieutenants, they study it during a short war course. Later, at the Staff College and in the War College, we are aiming at the ideal of a common doctrine of war, based on careful historical study. The courses for selected Officers of the three Services and some Civil Servants at the Imperial Defence College are further stages in promoting co-operation, while the education of His Majesty's Ministers in the needs of war proceeds, during peace, at the meetings of the Committee of Imperial Defence.

In the past it has often occurred that commanders of H.M. Forces have found themselves isolated for the time being, from communication with the Government, and have had to make decisions based on their knowledge of the economic and political aspects of the situation. Our fitness to meet such situations is greatly increased by previous study.

So it is our aim that the study of history should enable us to understand war, not only from the naval, military and air force point of view, but also in its political and economic aspects.

To appreciate the importance of the economic factor in war necessitates, not merely reading history in order to learn what happened in the past, but also a knowledge of the resources of each nation and its dependence on outside sources for vital supplies, and the possibility of intercepting the latter. In our case, of course, it involves the close study of that most difficult and complex subject, the control and protection of our Mercantile Marine in war, for which the Navy must always be

prepared. The organization of industries for war must also be planned and ready to put into execution immediately on the outbreak of hostilities.

The political side of war, and the effect of different forms of modern warfare on the morale of potential enemy nations is another large subject.

Space does not permit me to discuss this matter any further, nor can I deal with the study of purely professional matters embracing the power of command and all the technical branches of warfare. I assume that everyone realises that a knowledge of the use and power of weapons is essential for the conduct of warfare. I would, however, emphasize the fact that it is not sufficient to undergo intensive educational courses in a college. The subject is far too vast to be learnt completely then. It demands the continuous study of a lifetime.

Opinions may differ as to whether one should try to cover a large area of history or concentrate on a short period and study that very closely. Personally, I advise an endeavour to acquire a wide general knowledge of history, while concentrating on that of the 16th century and onwards. I am sure no one could be so foolish as to imagine that it is not worth studying the wars of the past. Nothing can be further removed from the truth. The great masters of war may have been largely self-taught as regards the reading of history, but it is clear that they knew how to arrive at its true teachings. As Moltke wrote :

"Great captains have no need of counsel. They study the questions which arise and decide them and their entourage has only to execute their decision. But such generals are stars of the first magnitude, who scarcely appear once in a century. In the great majority of cases, the leader of the Army cannot do without advice. This advice may be the outcome of the deliberation of a small number of qualified men. But within this small number, one and only one opinion must prevail. The organization of the military hierarchy must ensure subordination, even in thought, and give the right and duty of presenting a single opinion for the examination of the General in Chief to one man and one only. He will be appointed, not by seniority but by reason of the confidence he inspires. The General in Chief will always have, as compared with his advice, the infinitely weightier merit of having assumed the responsibility of executing what he advises."

Colonel Henderson shows the importance of this fact when he says : "There is nothing more to be dreaded in war than the combined labours of a thoroughly well-trained General Staff, except the intellect and audacity of a great strategist."

In conclusion, I would call your attention to Clausewitz's saying : "knowledge is power," but that this power cannot be effective unless used with judgment. It is not sufficient to be a historian ; special gifts are required for conducting war, even when equipped as far as is practicable with a common doctrine, for, to requote Marshal Foch : "Everyone will profit according to the measure of his own gifts."

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## THE HUMAN ELEMENT IN WAR

AN ADDRESS DELIVERED TO THE U.S. ARMY WAR COLLEGE

By MAJOR-GENERAL CHARLES P. SUMMERALL, Chief of Staff of the  
U.S. Army

*(Reproduced from The Coast Artillery Journal.)*

WHILE the consideration of the human element is predominant in war, there is great necessity of comprehending it as an essential in the management of men in peace. Indeed, if one does not understand and practise the art of controlling the human element in peace, he cannot do so in the test of war. It is trite to say that the human element remains, as it has ever been, the determining factor in battle. Machines and arms may be multiplied and changed, but the man who uses them will determine the final issues of victory or defeat. The psychology of men is a definite quality. It cannot be changed. To be used it must be understood and taken as it is fixed by nature. It can be used to bring about results just as successfully in garrison as in campaign. Indeed, the qualities of discipline, morale, efficiency, loyalty, etc., are only evidences of the degree to which some leader has directed the psychology of his men. For example, to-day we are concerned by a high rate of desertions. Yet we find organizations where the same evil exists only slightly, if at all. Some posts have large numbers of men absent without leave, while others are proud of their good record. Most evidences of indiscipline are capable of being corrected or removed by methods that take advantage of the human element, for any given number of men are essentially the same in the human characteristics as any other like number of men. It is not so much the fault of those responsible as it is their lack of understanding and, in some cases, the aptitude to apply a few psychological principles. All of our schools should teach the theory and practice of dealing with men according to methods that are readily understood. While everyone would not be equally successful, there would be marked improvement in all standards, and the officer who lacked sufficient aptitude would subject himself to elimination.

While much has been written on psychology, the principles needed by the military leader are few: but they must be so thoroughly assimilated that they become a part of his life and personality. The following truths are stated as some of the more essential guides in directing the human element both in peace and in war.

This is absolutely true in every echelon of military command. Thoughts are things, in that a man cannot act or talk other than as he thinks. If an officer wishes to influence his men he must actually be what he desires them to become. A single disloyal remark or act will spread through the minds of his men. He not only will be unable to lead, but he will deprive them of the will or the power to follow. On the other hand, a resolute, loyal, unquestioning leader of any grade will inspire his men with his own indomitable spirit. Thus they will react upon each other and perfect confidence will make an invincible unit within its power, be it a squad or the largest command that one personality can permeate. The power of example thus becomes the measure of leadership.

From the very nature of command the minds of subordinates turn to the leader for direction. A military unit can be no stronger or more efficient than the leader. A subordinate may influence his echelon, but he will not affect other echelons or higher elements. Human nature is jealous and proud. A leader naturally resents the effort of a subordinate to instruct or guide him and is thus not receptive of influence from below. From this it follows that, if a command of any size is good or bad, one has only to fix the responsibility upon the leader.

The real leader will give his subordinates credit for all of their accomplishments, but he can no more escape a similar honour from them than he can escape blame for failure. The true leader not only initiates impulses for his subordinates but he adds force to impulses from above. With a chain of such leaders an order gathers momentum, and on reaching the point of execution it strikes with irresistible force.

The average mind is such that it does not analyse abstract causes or even the great principles over which wars are fought. Men are elemental and practical and cling to real things. They want to have leaders. They want to admire them and they want to follow them. After the classic assaults at Plevna, General Skobelev II divided men into three categories. A small percentage have no sense of fear and are eager for combat: they will expose themselves recklessly and soon become casualties. Another very small percentage have not been endowed with enough courage to sustain them in danger, and they will soon disappear. The great majority of men in face of danger gladly surrender their wills to their leaders and are easily controlled and guided. These are the men who properly commanded will win the battle. Danger, hardship and tragedy develop a peculiar bond between men of all ranks, for basically human nature is the same. As one real leader has expressed it: "In the face of death all men are equal." Thus men come to have a perfect and almost childlike confidence in a successful leader. The man who, in any unit, shows sympathy, helpfulness and comradeship for his men may be sure that they will fight for him. To secure this response a leader must be known to his men and must be seen by them at the point of danger as well as elsewhere. They must

know not only his name and appearance, but his record and they must have personal proof of his care.

Men do not fight for fear or for material reward. Courage and fortitude are spiritual and are not influenced by material considerations. A man fights for pride in himself and in his command. Pride is a basic element of human nature. There is no human being wholly devoid of self-respect. The soldier is especially sensitive by reason of his subordination, and when once his pride is aroused he becomes intensely solicitous and jealous of preserving it. In the same way he becomes loyal to his command and his comrades, and he would forfeit his life rather than act unworthily of them or incur the censure of those whom he respects. His sense of justice requires that his good performance be recognized, and where such recognition is withheld he experiences discouragement and depression. His richest reward is recognition by his leaders. This may vary from a simple word of approval to the highest decoration or citation according to his merits. On the contrary, censure or blame rouses the equally elemental quality of self-preservation. The man who humiliates his subordinates or who abuses his authority will forfeit their respect and arouse their antagonism or their hatred. Men want and admire firmness and positiveness, but command must be exercised so as to leave no personal sting. True discipline comes from pride and not from fear. Arbitrary and harsh measures may be easier to adopt, but they will multiply troubles out of all proportion to the gain.

The ways by which a leader's hold may be obtained on men are few and simple. He must live and conduct himself so as to be worthy of their respect. They are unerring in their perceptions, and they not only quickly discover but they abhor shams of every kind.

Men demand a reasonable degree of justice. They expect a leader to be fair and understanding. A single act of glaring injustice will injure his prestige and influence. Men must trust their leader in order to follow him.

It goes without saying that men demand the same courage and fortitude in the leader that they are expected to possess. A single evidence of timidity will end his usefulness. It is perhaps for this reason that officers have at times unduly exposed themselves and suffered unnecessary casualties.

Men are easily discouraged in the face of hardship and unreasonable tasks. With the loss of physical strength and with the exhaustion that is inseparable in campaign, the mind becomes correspondingly weakened. The leader must know how to assign missions possible of accomplishment under the conditions and to organize his resources so as to make success reasonably sure. Repeated failures can only result in a loss of confidence and in ultimate loss of morale.



Men are pleased by having their superiors know their names and something of their performances. While the limitations of higher commanders are soon reached, in the lower echelons a leader should make every effort to know his subordinates personally and make them realize his individual interest in them.

Men read the expression in the face of their leaders and are unconsciously influenced by their appearance, manner and tone of voice. Self-control becomes, therefore, a vital attribute of a leader. To be calm, self-possessed, and self-confident is indispensable. A leader must not only believe that he is right, but he must be so sure of it that he will convince everyone else, by everything he says and does, that his plans and purposes are right. Thus he will make men sure of success even though the plans might not be the best that could be adopted.

Men are capable of understanding the tasks demanded of them and the purposes to be accomplished. They respond eagerly to the leader who will talk to them and explain their accomplishments, their situation and the necessity for further effort. Thus they require a personal relationship toward the leader and a personal identification with his plans. Each man comes to feel an individual responsibility to perform his part even to the extent of feeling that success depends upon his own efforts. In this way the leader accomplishes not what men think they can do, but what he knows they can do. He dispels imaginary evils and obstacles and creates a state of mind and a method of thinking that add immeasurably to the fighting power of his command. Indeed, many difficulties are wholly imaginary. Defeat comes not so much from physical effects as from a state of mind which makes men reduce or cease their efforts. When properly identified with his troops, the personality of the leader remains in their minds, and in the stress of battle his influence encourages them and strengthens their resolution.

Within the limits of personal contact, men should be encouraged to go to their superiors with their difficulties and they should find help or be convinced of the reason why it can not be given. The strongest nature needs human sympathy at some time and a single act of consideration and help may change the entire career of a man for good.

These precepts may be somewhat commonplace and unscientific, but they embrace the essentials of human nature. The greatest responsibility one can have is to be entrusted with the lives and the sacrifice of men and even the fate of one's country in war. No labour is too exhaustive, no effort too great, and no detail too small for those who, as officers of the Army, have dedicated themselves to the motto "Duty, honour and country."

The leader must know how to assign missions possible of execution under the conditions and to organize his resources so as to make success reasonably sure. Repeated losses in a series of campaigns lead to a final loss of morale.



## THE RAILWAY ORGANIZATION OF AN ARMY IN WAR

By LIEUT.-COLONEL E. P. ANDERSON, D.S.O., R.E.

THE need for an adequate railway organization on the lines of communication of an army has been felt in every modern campaign, but has never been adequately anticipated, largely owing to financial reasons. It is therefore of considerable importance to discuss what we shall require from a railway under war conditions, and why we may need it. In the first place it must be realised that every railway, wherever built and whatever its original purpose, has or may have some military importance; for example, some of the lines in North-West India which now carry an important commercial traffic were originally built for purely strategic reasons, while the originally commercial lines between France and Belgium became vital lines of communication for both armies during the Great War.

A careful study of all the railways in every possible theatre of war is therefore the first important step to be taken in time of peace. Such a study, however, cannot usefully proceed very far unless we have a clear conception of what the railways are likely to be asked to do in war. As soon as an army advances any distance more than, say, thirty miles, or a day's run of a lorry, from its sea base all its requirements will have to be carried up by train; this amount of stores is too great to be handled continuously for any long period by any other means. The food for two divisions requires normally one standard gauge train load daily;<sup>1</sup> ammunition is a large but fluctuating demand which in static warfare has been seen to reach a train load daily for every quarter of a mile of front. Then there are engineer stores, other ordnance stores, and ambulance trains, all of which taken together make up a total volume of traffic enough to tax the resources of a quite well equipped railway.<sup>2</sup> If the railways in the theatre of war are not up to these requirements it becomes necessary to improve them, while in a theatre of war where no railways already exist the whole success of the campaign may depend on the rapidity

<sup>1</sup> This is now estimated as 100 tons per division = 200 tons, say, 40 short trucks at 5 tons per truck; but these figures were often exceeded on the Western Front.

<sup>2</sup> The estimated tonnage to be moved daily must therefore be given by the General Staff as a guide for the scale of the technical preparations required.

with which they can be built. The first need is therefore a technical staff capable of considering all these problems and directing the steps to be taken to enable the railways to meet the requirements of the army.

Experience has further shown that once the necessary carrying capacity has been provided a military controlling<sup>1</sup> staff is necessary to ensure that the best use is made of that capacity and to free the technical staff from the necessity of adjusting conflicting demands made on them by various arms and services. The railway organization should therefore be divided into two branches: (a) technical; and (b) movement control, which will be seen require no technical knowledge of railway work. Both should be responsible to the same head, the Director of Railways.<sup>2</sup>

#### (a) THE TECHNICAL BRANCH.

In peace time a few officers with experience of railway construction and operation are required to study possible theatres of war and to work out plans in conjunction with the General Staff. This nucleus should, on mobilization, be expanded into the headquarters technical staff of the Director of Railways with the following branches:

- (a) Engineering;
- (b) Operating;
- (c) Stores;
- (d) Personnel.

These will now be considered in detail.

From the engineering point of view all theatres of war will divide themselves broadly into two categories: civilised, where the only or principal work is the improvement of existing lines or their repair if damaged by the enemy; and uncivilised, where new lines have to be built. In either case the first need is for reconnaissance and more or less railway survey work. This must be carried out by experienced railway engineers, since lack of it will often cost valuable time which in war matters even more than money. If a new line is to be built, the General Staff should not put the problem to the Director of Railways in the form of a demand for the construction of a line from A to B or from A to B *via* C; but in the form of a statement that the delivery of *x* tons of supplies daily is required at B—and only if necessary *via* C.<sup>3</sup> The Director of Railways can then see how best his technical resources can be utilised to further the G.O.C's. object. No one can lay down the best route for a railway without some instrumental survey; maps

<sup>1</sup> The word "control" is misleading and has been cut out officially, but is used right through this article as an indication of the nature of the duties.

<sup>2</sup> This is not in accordance with the Manual of Movement, but agrees with present "transportation" views (*c.f.* S. Africa).

<sup>3</sup> There may, however, be "military" as opposed to "technical" ruling points through which the line must pass. The cost in time and labour of adhering to these must be given due weight before embarking on construction.

must generally be treated as unreliable till the contrary is proved, and the best route in peace, when time is of less importance, must frequently be abandoned in war in favour of the one most rapidly constructed. For all this work Railway Survey Companies are required. Each company must be capable of sub-division into absolutely self-contained and extremely mobile survey squads for different work. Each squad will require at least one experienced engineer officer to direct operations (not to work an instrument himself), other ranks as instrument men, rod men, draughtsmen and so on, and last, but not least, sufficient and efficient mechanical or other transport to be able to move complete and rapidly wherever required.

Only when the plans have been made, and not before, can skilled and unskilled labour be put to work. To do so sooner is not merely wasteful but actually causes delay by using up the energy of the men to no purpose and making them disheartened and sluggish when put on to the right job. The nature of the labour required will depend on the exact work to be done and will be provided either by Railway Companies R.E. or by Labour Units. The former provide the skilled personnel, but the numbers and trades required are so diverse that it will rarely be possible to obtain all of these from one company. It is better to organize companies for different purposes, but to make them capable of minute sub-division so that each job falls to the correct technical labour no more and no less. In this matter we must rather follow the practice of civil engineering works, and if necessary go outside the strict military organization of a company; this can be done on works without unduly interfering with discipline or interior economy. The Railway Construction Companies R.E. should, therefore, be organized as either of the following, the numbers required of each varying according as the work is new, construction or repairs :—

- (i) Platelaying Companies, including enough other trades such as carpenters and blacksmiths to do incidental jobs ;
- (ii) Bridging Companies, which should as their name implies, be capable of undertaking any kind of bridging or similar work ;
- (iii) Electrical and Mechanical Companies, equipped to undertake all work of this kind on construction, particularly water supplies. It is sometimes not realised how much depends on adequate water supplies, and co-ordination of railway requirements with those of other branches of the army is essential. Every steam locomotive on a standard gauge line requires from two to four thousand gallons of water at intervals varying from about thirty miles in easy country to ten miles on very heavy grades. In the latter case each train may need as many as four engines. The railway demands for water are therefore often as big as those of a small town. No water means no

trains. The importance of giving these units sufficient transport, preferably mechanical, to enable them to send out men and equipment to work ahead of railhead cannot be over-estimated; days can be saved in the time of construction by so doing;

- (iv) Railway Telegraph Companies. Although railway signaling, as practised in peace time, is largely unnecessary under war conditions, the prompt construction and maintenance of a station-to-station telephone system with additional lines for the control of traffic at important points and independent of those used by the army for other purposes, is essential. Railway Telegraph Companies with personnel and equipment both for construction of such lines and operation of telephone exchanges and telegraph instruments, where necessary, must therefore be provided. During the late war these units were found from what is now the Royal Corps of Signals, but, while admitting the need for close co-ordination of their work with that of the army signal units, it will be better to keep the railway work directly under the control of the Director of Railways.

Where the scope of the operations is extended it will be found that the chief construction engineer cannot personally control the work of all his scattered units. To meet this difficulty it will be necessary to appoint senior officers each with a small staff under him to take charge of definite lines or areas, from which they should be moved as seldom as possible. These officers will command the groups of railway construction companies working in their areas. This organization admits of the addition to or subtraction from any group of such units as the work requires; it follows the normal "company" organization of the Royal Engineers, and is preferable on account of its flexibility to the "battalion" organization which was tried to a certain extent during the late war.

In considering the problem of the unskilled labour needed for construction the first point to be realised is the large number of men required. With labour units formed of men of inferior physique, as will usually be the case, the construction of a new standard gauge line at the rate of, say, a mile a day ("good going" if long maintained and only attainable at all in easy country) may require some two to three thousand men. Labour saving machinery is only rarely available when and as required for such work, so reliance must be placed largely on manual labour. The degree of "dilution," in this case unfettered by trade union rules or legislation, will depend on the nature of the work; for earthwork it may be one skilled to ten or twenty unskilled men, while for bridging it may be as little as one to two or three. It should be unnecessary to emphasize the importance of not wasting skilled technical

personnel on work which can be equally well done by unskilled or semi-skilled labour. Labour units allotted to railway work should therefore be kept as far as possible on similar jobs all the time. If this is done the men soon acquire experience and a certain degree of dexterity thereby releasing some of the skilled men for other work without reducing the output. Few things are so irritating to the railway engineer as to lose, owing to an administrative shuffle, a gang of labourers who have just become efficient at some special work like platelaying; such a change must always result in at any rate a temporary decrease in output. In a friendly country some of the skilled and much of the unskilled labour can, in some cases, be locally recruited civilians. The organization should allow for this; also for the fact that a certain amount of food and camp equipment are required by such civilians just as much as by the troops themselves. The work is continuous and severe, so no reduction in the scale of rations is desirable.

Space will not admit of a full discussion of the numerous engineering problems which may arise, but notes on two fundamental points seem advisable before passing on to consider operation. First: new lines constructed in war can only follow the routes giving the easiest possible work. Earthwork takes more time than almost anything else, and time will always be too short for tunnels or big bridges or embankments. The need for lines involving these must, therefore, be foreseen and the work, if done at all, got on with during peace. A war organization designed to carry out a line like the recently-built Khaibar Railway "while the enemy waits" is not required. Second: the existing gauge in the theatre of operations must be adhered to, as transhipment means loss of valuable time and waste of labour. In an uncivilised country nothing smaller than metre gauge will meet the needs of an army of any size, standard gauge is probably better. Light railways, such as those of the 2 foot gauge, can only be regarded as a substitute for roads for the purpose of purely local distribution from standard gauge railheads. The organization of the Railway Directorate should be such as to be capable of doing both classes of work, and strong enough to be able to resist successfully the diversion of its limited resources from their proper function, which is the provision of strategical through communications, to meeting demands for merely local and temporary requirements of detail distribution.

The organization for the operation of railways used by the army must take account of two distinct sets of conditions; (i) lines where owing either to hostility or lack of civilization no civilian personnel are obtainable; and (ii) lines where some proportion of civilian personnel is obtainable. The late war furnished examples of both cases, but in future campaigns it will certainly be a measure of precaution to provide an organization capable of such expansion as to meet fully the first and simpler case. The units required will be Railway Operating Companies R.E., each comprising all the station and running staff required for both.



locomotive and traffic work on a line of given length. For military purposes the "divisional" or "American" organization has every advantage, as compared with the "departmental", once entirely and still to some extent used in England. In case (ii) the number of sappers will be much reduced; the worries of the operating officers will be correspondingly increased, and the possession by them of great tact and, above all things, a knowledge of the language of the civilians will be essential to successful working.

Operation of railways in war presents certain features which differ from those of peace. They may be summed up as the result of the concentration of a large volume of traffic on one or two unloading points. To keep up the necessary rate of delivery it is, therefore, necessary to ensure prompt unloading and clearing of railheads. This may seem simple; but an ordinary train load of supplies needs about 150 lorries to move it. Wagons cannot be allowed to block railheads. If under load and not promptly cleared they will certainly, in the majority of cases, be automatically returned to the "regulating station," that invaluable reservoir for the adjustment of supply and demand a short distance behind the forward railheads. If empty they go to the base, where further loads are picked up. The working of a Regulating Station requires constant supervision and a knowledge in advance of probable requirements. In this, just as much as in questions of construction, the Director of Railways must be in the confidence of the General Staff. The loading of wagons whether at the regulating station or the base will always be found to present, in every case except ammunition and certain bulk supplies such as coal and road metal, the unavoidable and unsatisfactory feature of great bulk in proportion to weight; this must be allowed for in arranging the supply of wagons. A recent experiment in Northern India showed that the average load in tons was only about one-third of the tonnage capacity of the wagons. But where conditions become static, as they did in France, this load will become greater. Careful attention by the troops to the directions of the technical staff regarding loading will be well repaid in reduction of delays and damage—particularly in regard to the securing of animals and vehicles and proper distribution of heavy weights. Foresight in arranging for the handling of loads of abnormal weight or size at both ends of their journey is essential; the resources of the railway in such things as cranes are often limited. Operating companies must be in a position to assist the troops, if occasion offers, by working supplies and ammunition as far forward as possible. The use of internal combustion or condensing locomotives, when these types are perfected, will at times enable direct deliveries to be made, for example, to heavy battery positions without resort to road transport or light railway.

The stores organization under the Director of Railways must necessarily be separate to those of the Royal Army Ordnance Corps or other branches of the Royal Engineers, because the nature and quality of



many of the stores and materials required for railway work differ largely from those used for any other purposes. Co-ordination in such matters as purchase of articles of universal use will, however, be required. A broad view as to quantities is essential, and, in the case of a civilised theatre of war, the more or less complete destruction of existing lines must be expected. For example, the time factor will usually dictate the wholesale replacement of broken rails rather than cutting and re-boring their damaged ends. While coal must be of a quality suitable for the engines used, the use of the household varieties supplied for warming and cooking will, as a rule, lead to a heavy loss of efficiency. A complete organization for unloading, stacking and re-loading of everything as required, with, at any rate, a rudimentary system of accounting for quantities is necessary. This work will be done by Railway Base Stores Companies R.E. and Labour Units working with them. Alongside the stores and working in the closest co-operation with them will be the Railway Base Workshops Companies R.E. Their function is to carry out all the heavier mechanical work of either manufacture or repairs, which cannot be readily done in the field, or for which special machine tools are required. They should be so organized as to be able to send away (usually by rail) detachments and equipment to deal with any particular job such as a big steel bridge or water supply, as well as to do urgent repairs to locomotives and rolling stock, if necessary; the normal overhaul of engines and vehicles should, however, be left over, as far as possible, till peace is declared. The importance of well-equipped base workshops with ample skilled staff can hardly be over estimated, though space prevents the enumeration of the kind of jobs which experience has shown that they are required to do. Finally, it should now be unnecessary to labour the point that the successful operation of any railway in the theatre of war depends as much as anything on the existence of good "railway discipline" among the troops whom it serves, and still more among the railway personnel.

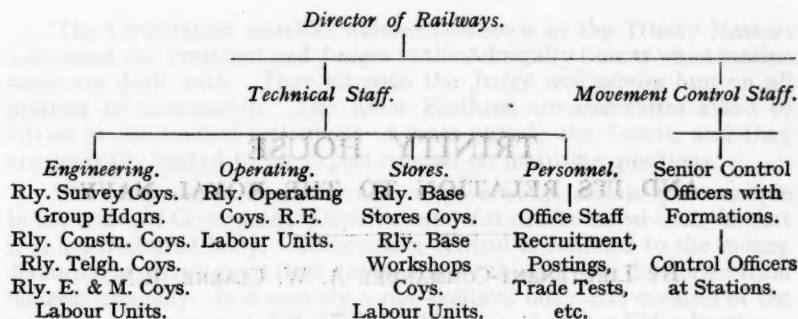
The need for a personnel branch at the headquarters of the Director of Railways may not at first be apparent, as such work falls within the province of the Adjutant-General's branch. But if the Adjutant-General is regarded as the source of bulk supplies of men of all sorts, it will soon be found that an organization for detail distribution among the railway units is required to ensure, for example, that men of the correct trades and the proper degree of skill at those trades are sent to each unit. The Director of Railways Staff has also to watch the disposal of sick men when returned to duty, so as to avoid the loss of skilled railway men by their transfer to other branches of the corps. On this question of skilled men really hinges the whole question of recruitment of railway units. It is not possible to take even an unusually intelligent soldier and make him an efficient railwayman by a few short courses. The "railway instinct" is something not unlike the sea instinct, which takes years to acquire but which makes men who

possess it do the right thing in an emergency almost or quite automatically. Emergencies calling for this quality are frequent enough in peace; they are hundreds of times more frequent in war. Officers and men cannot keep their railway instinct alive and keep up their technical skill and knowledge unless constantly making use of them; this can only be done in peace on commercial railway or similar work unless an instructional railway out of all proportion in size and cost is to be established (and even then it would probably fail in its object through the mere fact of being instructional instead of commercial). So we are forced to rely on being able to secure on mobilization the services of those officers and men whose work in peace time qualifies them for the duties required of them in war. A system based on these lines has now been elaborated; let us hope that it will prove complete when the test comes and that valuable and irreplaceable technical personnel will not again be lost by too hasty enlistments elsewhere.

#### (b) THE MOVEMENT CONTROL BRANCH.

During the Great War the "R.T.O." was a familiar figure, and often the butt for wit and ridicule, in every theatre of war. But experience shows that if confined to his proper sphere he is of great assistance, both to the technical railway staff and to the army. His most important duty is in no circumstances to interfere in the technical working of the railway; it is therefore best to appoint to this branch officers with no previous railway technical knowledge. In this way one ensures that they only fulfil their proper function of liaison between the railway and the army. Their most important qualification is really endless tact combined with strength of character enough to act successfully as a buffer between, say, an irate C.O. and a station-master who, though probably dressed in the uniform of a N.C.O. R.E., must be, in fact as well as in name, master of his station if the proper movement of traffic on the railway is to continue. The control staff must also, if possible, know the languages of all the people with whom they come in contact. As already stated, they must work under the Director of Railways for he and his staff are largely dependent on them for timely information of the requirements of the army on which the details of the train movements depend. For this reason also it is advisable to group stations within the area allotted to any large formation under a senior control officer who keeps closely in touch with the headquarters of that formation. The control staff should as a rule give no orders direct to the technical staff at stations except on minor matters; and where military and civilian technical staff are working side by side it is no part of the duty of the control staff to interfere between them.

The railway organization required in war may perhaps be most conveniently summed up in the form of a diagram:—



The numbers, strength and composition of these units depend on the results of the preliminary study of the theatre of war and the plans of the General Staff. With arrangements well thought-out beforehand there is no reason to suppose that the necessary personnel cannot be found from among those employed in peace on civil engineering and railway work. The material required depends largely on local and temporary conditions, and discussion of its details is impossible within the compass of these pages. But adequate arrangements for its supply need much care and thought and are just as essential as any other detail for the successful working of the railways which form the backbone of the line of communications of an army.

## TRINITY HOUSE AND ITS RELATION TO THE ROYAL NAVY

BY LIEUTENANT-COMMANDER A. W. CLARKE, R.N.

THE Trinity House—or, to give it its ancient title, the Brotherhood of the Most Glorious and Undivided Trinity of Deptford-Stronde—is a Corporation well known to naval officers in a general way; but its history and its exact functions, in the past and present, are not a matter of common knowledge. Yet the Trinity House was the cradle of the Royal Navy; it is the oldest Guild of Mariners in Great Britain and, presumably, in the world, while its contemporary responsibilities touch the Navy at many points, and a naval officer, Vice-Admiral George R. Mansell, M.V.O., C.B.E., is now its Deputy-Master. A short survey of its records and sphere of national usefulness may therefore be of interest to Service circles at the present time.

The activities of any guild are a mixture of business and charity; but for the purposes of this paper the charitable side of Trinity House, though active and beneficent, can only be touched upon in passing. It does not now deal with naval needs; although in the past, when the Royal Navy was practically one with the Merchant Service, this distinction did not exist. King George's Fund for Sailors, however, which supports all approved Marine Benevolent Institutions, whether naval or mercantile, has an official location at Trinity House, by the courtesy of the Elder Brethren, one of whom is its Deputy-Chairman.

The Corporation of Trinity House is composed of a body of mariners responsible for the administration of the lighthouses, lightvessels, marks, beacons, buoys and other aids to navigation on the coasts of England, Wales and the Channel Islands. In addition, they have certain statutory control over the Irish Lights and Northern Lights Boards. They are further responsible for the safety of shipping in certain pilotage waters surrounding our coasts, and for this purpose examine and supply the pilotage service and carry out the destruction or removal of wrecks dangerous to navigation.

In order that their specialized services may be available, the Corporation is represented by one of its members on the Boards of such Authorities as The Port of London Authority, The Southampton Harbour Board, The Harwich Harbour Conservancy and other similar bodies.

The Corporation provides assessors—known as the Trinity Masters—to assist the President and Judges in the Admiralty Courts when marine cases are dealt with. They sit with the Judge and advise him on all matters of seamanship. The Elder Brethren are sometimes asked to advise in the mutual settlement of cases outside the Courts, and they are generally looked to for expert counsel on maritime questions.

The Corporation is a very conservative body, and is quite unique in the realm of Government Departments, if it can be called such, in that it is a self-elected body. Government control is confined to the money disbursed in carrying out their duties, and for this purpose the Corporation budgets annually. It is entirely a non-political body and consists of ten working members, styled the Deputy-Master and acting Elder Brethren. They are, in fact, the Board of Management. To these are added the younger brethren who hold purely honorary positions and whose voting power is confined to the election of the Master and Wardens each year on Trinity Monday. Election as a Younger Brother, which must be a preliminary step to Elder Brother, is in the hands of the Board, to whom the candidate must be known and, with a few exceptions, hold the qualifications as a Master in the Merchant Service or rank as a Lieutenant in the Navy.

There are a limited number of honorary Elder Brethren consisting of Royalty, Statesmen, and Officers of high rank. Election to the honorary Elder Brethrenship is a distinction of the first order, and comes only to few.

The actual Board of Management, i.e., the acting Elder Brethren, is composed of ex-Masters in the Merchant Service with one, or sometimes two, retired officers of the Royal Navy, who usually hold the rank of Post-Captain on election.

The present Deputy-Master, as stated above, is now a naval officer, the first to hold that office for a considerable period. The Master is H.R.H. The Duke of Connaught, and he presides at such of the Corporation's meetings as are ceremonial, as against the purely administrative work.

There are, in addition to the Elder Brethren, some two hundred Younger Brethren.

The Corporation are in close touch with the Admiralty, particularly the Hydrographic Department.

The history of Trinity House is an integral portion of the history of the British Navy. In the past the Corporation performed the duties of the Naval Constructors of the present day, designing the King's ships as well as surveying and reporting upon vessels hired or purchased for warlike purposes. It was their duty to determine the size and equipment of any fleet which left our shores. Not a gun, not a charge of powder nor a round of shot was placed on board any vessel without a Trinity House certificate. The victualling of the Navy was the especial



charge of the Corporation, to which was confided the care of the stores and building yard at Deptford. To these State duties must be added those of appointing pilots, laying buoys and erecting beacons, and the right of dealing directly with foreign rulers in the appointment of certain consuls.

It is the privilege of the Brethren to act on State occasions as Royal Pilots, a Trinity yacht accompanying the Royal yacht. The Elder Brethren have their special uniform and fly a Trinity Jack at the mast-head at sea. Their precedence ranks with, but after, Post-Captains in the Royal Navy. The Trinity House have their own ensign. In this connection it is interesting to note that they were once offered the white ensign but preferred to fly their own flag, a decision not surprising and worthy of a Corporation jealous, and deservedly so, of ancient rights and privileges.

It is for the reason of their past connection with the Royal Navy, now severed for the dual reason of the growth of both the Navy and the specialized function of administering the lights and pilotage of parts of the United Kingdom, that the history of this Corporation is of interest to Naval officers. Throughout the history it can be observed that the Guild spirit of self-help and personal disinterestedness has been conspicuous, and it continues to this day in the Corporation.

The Corporation of Trinity House first comes to light as a Guild or fraternity of pilots, seamen, and mariners located at Deptford-Stronde early in the XVIth century. This Guild, having become prosperous in lands and almshouses, was incorporated at the instance of Sir Thomas Spert by Henry the Eighth, on May the 20th, 1514. Prior to the reign of Henry the Eighth, it is stated that the Trinity House existed as a collegiate institution at Deptford, belonging to a society of seamen with power by Charter "To take knowledge of those that destroyed sea-marks."

Sir Thomas Spert, who was Controller of the Navy in the reign of Henry the Eighth, is claimed on his mural tablet in Stepney Church as the founder and first Master of the Corporation of Trinity House. The first notice of him occurs in 1512 when he obtained a grant of eightpence a day out of Petty Customs of the Port of London. In the next year he is Master of the "Mare Rose." In April, 1513, we find him Master of the "Henry Grace à Dieu." The first notice of Spert as "Clerk Controller of our ships" is found in 1526, in which year he is given the grant of ballastage in the Thames for a rent of ten pounds per annum.

The first document in which the Fraternity occurs is a licence to found a Guild in Honour of the Holy Trinity and St. Clements in the parish of Deptford-Stronde for the reformation of the Navy, lately much decayed by admission of young men without experience, and of Scots, Flemings and Frenchmen as loadsomen (pilots). This was followed by the authority to appoint one Master, four Wardens, eight Assistants and

a Chaplain annually, and that they had the authority to hold "All the lands and tenements already in their possession for all time." It seems likely that the Guild was incorporated as a consequence of the wise policy of Henry the Eighth, to the amplification of which we owe our Navy.

For some six years the Brethren were chiefly engaged in providing pilots for the Thames, caring for the burial of dead Brethren and Sisters, exercising charity towards seamen and mariners in distress, relieving the widows and orphans of Brethren, and taking charge of wives and children of such as were in captivity or disabled. This was their Guild work when not pursuing their usual maritime vocation. There were large numbers of brethren (such as are Younger Brethren now), which made it possible for sufficient to be ashore to carry out this work.

In 1520 came the establishment of the Admiralty and Navy Boards. Dockyards and arsenals became a Government concern; and the building yard at Deptford, together with the superintendence of the store houses for arms, munitions and provisions were placed under the direct control of the Guild. Here we have the first control of Trinity House in naval matters, a control that extended onwards for over a hundred years, and of which traces have survived into our own times.

On the demise of Henry the Eighth naval enterprise relaxed. The fleets dwindled and the store houses became empty in the reigns of Edward the Sixth and Queen Mary.

The Guild and Fraternity now designated themselves "The Corporation of Trinity House of Deptford-Stronde" as a measure of protection against the spoliation of old foundations under Edward the Sixth. Trinity House, London, in company with the sister Guilds at Hull and Newcastle, succeeded in retaining their rights and revenues.

When Queen Elizabeth came to the throne naval activities again increased and the duties of Trinity House were expanded accordingly. An Act was passed enabling the House to erect sea marks (its principal duty to-day) and to license mariners to row in the Thames. These marks had to be erected at their own expense and there was then little income; but it put the Trinity House on a sound footing. They could fine destroyers of sea marks one hundred pounds, half going to the Queen and half to the Corporation.

The Corporation is styled in a contemporary document "A company of the chiefest and most expert masters and governors of ships, incorporate within themselves, charged with the conduction of the Queen's Majesty's Navy Royal."

They presented a petition for the better keeping of Wednesday as a fish day only, in order to increase fishing and improve material for the Navy, for which we may perhaps find a parallel to-day in the Trawler Reserve.

In 1588 the first reference is made to the privilege enjoyed by members of the Corporation of exemption from service on land, which is still

in force. The functions of Trinity House emerge in history again in 1588, when the Master of Trinity House wrote to Lord Burghley at the coming of the Armada, saying "There were thirty sail of merchant ships which might be fitted to join the Lord Admiral within four days." From the records it is found that the famous Sir John Hawkins was a member of the Corporation; and although documentary proof is lacking, owing to the destruction by fire of two Trinity Houses, there is little doubt that the other famous seamen of his time were also members of the Guild. It was at this period that a grant of arms was obtained from the Garter King of Arms.

The next stage is very important. From time immemorial the right of appropriating all profits arising from the sale of ballast dredged from the river Thames was attached to the office of Lord High Admiral. The dues which were levied for beaconage and buoyage also belonged to the same office. These privileges were usually leased to private individuals, as being a simple method of collecting the revenues by the Lord High Admiral, in much the same way as taxation was then farmed out by the King. These grants and leases were sore subjects for strife. It was an unsatisfactory state of affairs and the Lord High Admiral Howard took the patriotic course of surrendering the entire rights and privileges of ballastage, beaconage and buoyage into the Queen's hands and beseeching her to bestow these same rights for ever upon Trinity House. Thus, in the thirty-sixth year of Elizabeth's reign, the Corporation became possessed of rights which, even then valuable, produced in time a very large annual income of which they were only deprived in the last century.

In 1604, we first hear of two classes of Brethren, Elder and Younger; the latter were simply members of the Guild, and apparently had no say in the management. The Governing body of a Master, four Wardens and eight Assistants was increased by the addition of eighteen Elder Brethren. These eighteen only acted on the Governing Board when nominated as deputies. The increase was due to the augmented duties of the Corporation, the small band of the governing body being unable to cope with their official duties without neglecting their own affairs. It must be remembered that the members of the Corporation had their own trade as masters of vessels upon which they depended for their livelihood. What with their personal duties afloat, inspection of naval stores, pilotage, beacons, buoys and ballastage, they must have been a hard-working body, and it redounds to their credit that, in spite of all this, they yet managed to perform the regular administration of their charities in a highly efficient manner.

In 1608, we find the King trying to impose his will on Trinity House in nominating a Master in the Navy, one Hugh Merrick, as a fit and proper person to serve as Master for the year. It appears that the Corporation preserved their independence and would not elect him.

The first instance of levying dues is two years later, when Trinity House directed that a tax of twelve pence per hundred tons be levied on all ships making Newcastle, Yarmouth, Hull, Boston and Lynn, to support the maintenance of buoys and beacons between Lowestoft and Winterton; and in 1609, it was decided that Newcastle colliers should pay fourpence a voyage.

We now come to the part Trinity House played in the suppression of pirates, then very frequent. A fleet of twelve ships was prepared to act against the pirates, and Trinity House prepared an estimate of the number of men required for manning. All large ports subscribed sums to finance the fleet, which appears to have been under the joint control of the Commissioners of the Navy and six merchants. Trinity House supplied £2,000 and levied a tax on merchant vessels as a subscription. Trinity House also suggested that merchant ships should sail in fleets (convoys).

There are many interesting certificates issued by the House about this time. One that the building of a Bridge between Stoke and the Isle of Grain would be beneficial. Others for the extension of wharves and building yards. Another giving the boundaries of the Levant, and a certificate that the wines of Malaga are not the growth of the Levant but of Spain. But the chief function of the Corporation is, and has always been, the lighting of the coasts, and the development of this service to its present extent is full of interest to all seamen. Many a tussle took place between the Corporation and the private owners of lights before the supremacy of Trinity House was definitely established.

It is difficult to fix the date of the first lighthouse erected (other than Cæsar's tower at Dover). It was about 1600 that two were erected at Caistor, Norfolk, and there are papers as to the advisability of a light near Winterton in 1616, which was approved by the King's Council who granted the levying of eightpence for every ship over a hundred tons and sixpence for others, fishing boats paying twelve pence annually. In 1617 Mr. Norreys and Mr. Geere were ordered by Trinity House to Winterton "to make lighthouses there." However, in the same year, the Attorney-General finds a loophole in the Act and states that the King is not precluded from erecting lighthouses on his own, and gave, of course, the King a chance of selling patents, which he at once took the opportunity of doing. Trinity House appealed but without avail; and in the next year a Sir W. Erskine secured a patent and built a lighthouse at Winterton, exacting a heavy toll from passing ships. What is more, he ordered Trinity House to extinguish their own light already there. Trinity House appealed unsuccessfully. Other people were emboldened by this trend of affairs and private lighthouses were erected at Ravenspurre, Dungeness and the Lizard. Apart from Trinity House, there was opposition from another quarter, and for a strangely different reason, to the Lizard Light; the local inhabitants complaining that the lighthouse would "take away God's grace from them, as they will have no more benefit from shipwreck."

The King supported the private builders, who paid him an annual rent, by granting them patents to have their dues collected by the Customs. A less piratical objection to the Lizard than the one above was brought up by Weymouth and Melcombe Regis in that "In hazy weather it cannot be seen and in clear weather the land can be seen"—a very logical argument.

Trinity House continued to attack the private lights and opposed every patent. However—not wonderful in the reign of Charles the First of Ship-Money fame—they lost at every turn, and they gave up the struggle in 1637. They had themselves, of course, also obtained private patents and erected their own lights, for which the dues were collected in the same manner as for the private lights. Private light-houses continued until 1836, when an Act of Parliament empowered Trinity House to purchase from the Crown and Private Proprietors all lights then in existence. In passing it may be said that lightvessels appear on the scenes much later than lighthouses and the earliest only dates from the XVIIIth century.

The activities of the House, besides lighting and the struggle for its Corporation privileges, from 1620 to 1647 are numerous; they included: an effort to get rid of unsatisfactory ballastage tenants; an attempt to gain justice for seamen and widows of seamen of the East India Company; great exertions to get a rise of pay for the personnel of the Royal Navy; and the persistent endeavour to raise ransoms for prisoners in Algiers. Four Brethren were engaged on a complete survey of the Navy to furnish a minute report respecting its conditions. They quarrelled with the Navy Board over a new method of measuring the tonnage of ships and we find them refusing to buy the "Mayflower" for the Navy. Buoyage occupied much attention. They introduced restrictions on bringing loaded guns above Gravesend and ordained that in passing Greenwich Palace salutes should only be fired on the Essex side.

In 1636 we meet with the first entry which connects the Trinity House with salvage work, the wreck in question taking place at Tilbury Hope, their opinion being that only guns and stores can be saved.

With the advent of Cromwell we come to a new era in the history. In spite of the Corporation's fearless attitude to the King, he dissolved their Charter, as he was afraid of such a powerful body with their authority over warships, stores and munitions. Cromwell appointed a Committee of outside men to act with such parliamentary Elder Brethren as remained. In this period, 1647-1660, it appears that the Military and Civil members attended to the clerical and charitable side, while the nautical Brethren surveyed and attended to the buoys, lights, stores and ordnance. The funds for charitable purposes fell to a very low ebb. Trade diminished greatly, and dues and ballastage dropped. In 1659, the encroachments of the sea at Reculver caused much alarm, and petitions were sent to Trinity House which was, however, unable to do anything in the matter.



At the Restoration the dispossessed Brethren returned and the Guild spirit revived. In November, 1660, Charles the Second re-granted them their Charter. The finances of the House were in a bad way. The usurping Committee had misappropriated funds and neglected to collect dues. Happily the true Guild spirit is hard to kill and the Brethren, who had suffered the loss of their income during the Commonwealth, renounced all claim to benefits so that the moneys recovered should be employed for the relief of the poor and decayed mariners.

In the next phase of the history we find many well known names. General Monk was elected Master in 1660, and Pepys and Evelyn were connected with Trinity House in their capacity as Elder Brethren. Lord Sandwich became a Warden. Both he and Monk were nominated by Charles the Second in the new Charter, as well as three other Wardens, the rest of the Board being left to the selection of the Elder Brethren. Pepys's diary contains many references to Trinity House, of which he was Master in 1676 and again in 1685. These references touch rather on the social side of the Corporation. He appears, however, to have been both an energetic Elder Brother and Master, and ready to uphold the dignity of the Corporation, by the fact that he once offered to inform the King verbally that it was inadvisable to interfere in the elections on Trinity Monday.

In 1664, the poor-box funds being low, a deduction was made from the "Elders turns" and a separate dinner book was ordered to be kept to show that the dinners were paid out of the pockets of the Elder Brethren and not out of Corporation Funds. Three Younger Brethren were deposed for refusing to serve as Masters of Naval ships.

In 1667 the Corporation were requested by the King to consider a plan for sinking ships in the Thames to defend the approaches.

In 1670 the new Water Lane house was completed in place of the one burnt down in the Great Fire. Samuel Pepys' brother became clerk of the house.

In 1675 the first notice of the examination by Trinity House of boys at Christ's College appears, with a view to obtaining clever boys as sea apprentices. The connection of Christ's Hospital with the Navy is well known; but it may not be remembered that the Brethren also examined Masters in the Navy in navigation down to the year 1874.

When James the Second ascended the throne a new Charter, framed by Pepys, was granted (mention of it is made in Evelyn's diary), and since this date the constitution of the Corporation has remained unchanged. It is interesting to note the main differences from its predecessors. Firstly: the number of the Governing Body was increased from thirteen to thirty-one; this was reduced in the XIXth century to twenty-four in all, thirteen acting and eleven honorary Brethren; and again, in 1910, to ten acting and eleven honorary. Secondly: the Crown reserved itself the right to remove any or all of the Elder Brethren and Clerks.

Thirdly: the Corporation were directed to examine the mathematical proficiency of Christ's Hospital boys. Fourthly: exemption from land service was emphasized, going as far as Assizes, Juries, Inquests, etc., but excepting Admiralty session.

Such is the history of the Corporation from its beginnings as a small private Guild and afterwards as a Chartered body to its final emergence with increased powers under the James the Second Charter. It is not clear when the Brethren ceased to control the Naval dockyard at Deptford, and no longer regulated the ordnance and ammunition. It seems probable that the advent of other dockyards would mark the time. But at the latest it must have ceased with the end of the Stuart period. As the XVIIIth century progressed, Trinity House labours became more and more peaceful. Lighthouses and buoys increased. Private patents finally ceased in 1836 by Act of Parliament and the Corporation took over all aids to navigation. In 1797, when the mutiny at the Nore occurred, down the Nore the Brethren sailed, removing all the buoys and beacons and destroying the sea marks in the face of the mutinous ships. In 1803, on the threat of French invasion, they personally raised the men for and equipped ten frigates which they moored across the Thames in the Hope. They were engaged on this duty for two years and personally lived on board. It cost the Corporation £10,000, of which the Elder Brethren contributed £4,000 and the Younger £2,000.

Attacks on Trinity House were frequent in Parliament. To the public mind it appeared unnatural that a Corporation possessed of such large sums should conscientiously distribute them. It was always found in each case that not a penny profit found its way into the Brethren's pockets. In 1822, "Elder Turns" were abolished and fixed salaries instituted. The "Turns" were derived from fees charged upon vessels entering or leaving the Thames, and so varied according to the trade.

In 1853 an important alteration occurred. The control of the funds derived from tolls and dues was transferred to the Board of Trade, and thereafter the Corporation budgeted annually for the sums required for the upkeep of the aids to navigation. When one realises the growth of shipping it seems probable that had the transfer to the Board of Trade not taken place, the Trinity House to-day would have funds available such as no other charitable institution has ever held, or dreamt of holding.

To-day the Trinity House, conservative in its organization, maintains the zealous efficiency it has inherited from the past, of which its important activities in this XXth century are sufficient proof.

## CIVIL ASPECTS OF AIR DEFENCE

By REES JENKINS.

*The author of this article was employed from 1915-1918 as a Captain in the Intelligence Corps when he was specially charged with the examination of all enemy aviator prisoners in technical matters, and with examining enemy aircraft wreckage and bombs which fell in Great Britain.*

*In 1918 he was transferred to the Airship Construction Branch of the Admiralty; in December of that year he went to Berlin to superintend the disposal of German airships and seaplanes, finally flying back with the surrendered airships L.71 and L.64 in 1921.—EDITOR.*

AIR attack and air defence undoubtedly constitute the two greatest problems that will have to be faced at the outbreak of any future war in Europe. It is not surprising, therefore, that not less than three lectures bearing on this subject should have been delivered lately at the Royal United Service Institution<sup>1</sup>; also that in these same lectures the problem should have been discussed by officers of wide yet dissimilar experience from totally distinct points of view. Several articles, in addition, have lately appeared in the press touching the same topic; in particular it is possible to refer to that which figured in "Fighting Forces" for July, 1926.<sup>2</sup> Again, the problem has also received attention in one or two noteworthy books of recent date. Lastly, two Secretaries of State for Air, Lord Thomson of the late Labour Ministry of 1924, and Sir Samuel Hoare of the present Administration, have both spoken in public quite freely of the perils that might come by way of the air in any European War of to-day.

In all these various utterances, however, inadequate attention appears to have been paid to the peculiarities and difficulties attending the control and management of a civil population exposed to air attack. It is true that the whole subject of air defence has been approached on broad and generous lines, yet the impression conveyed to the listener or reader is that certain of these authorities are somewhat inclined to make their audience's "flesh creep," while others seem to show that they possess no first-hand acquaintance with the astounding complexity of the task of managing a civil population in such circumstances. Indeed, it might almost appear that the problem has been envisaged as though the people to be defended were troops who could be moved from place

<sup>1</sup> "Certain Aspects of Air Defence."—4th November, 1925.

"The Nation in Relation to its Armed Forces."—27th January, 1926.

"Anti-Aircraft Defence."—24th November, 1926.

<sup>2</sup> "The Defence of a Civil Population against Air Attack," by Major B. C. Denning, M.C.

to place or otherwise disposed of in the manner most advantageous to the defence. To take a few of these views in detail: Group-Captain MacNeece, in his remarks, appeared to treat this particular "Aspect of Air Defence" rather lightly and to assign it without further ceremony to the Home Office; Colonel Villiers-Stuart, though far more clearly appreciating the true crux of the matter, would make the enforcement of all passive anti-aircraft measures largely a duty for the municipal authorities; Major Dening desires to assign the whole supervision of Air Defence to a Ministry of Defence—failing such a Ministry he regretfully resigns the full control of Air Defence to the Air Ministry. A suggestion, put forward in all seriousness by certain writers and speakers, that there might be a partial and uncontrolled evacuation of the City of London, if attacked by air, invites severe criticism from those who had personal knowledge of and association with, the civil aspects of air defence in the late war; yet this, virtually, is Major Dening's view and it seemed to follow a similar opinion put forward by an eminent authority in the discussion arising out of Colonel Villiers-Stuart's lecture.

None of these opinions, however, will, if tested by our own experience of 1914-1918, really hold good; neither can they be supported by French or German experience. Aerial warfare during the Great War was in its infancy, except on the actual battle front. Yet, since the Armistice, although vast progress has been effected in the offensive power of the air arm, it is surprising that no workable scheme should have been made public as to the actual relations that must exist between the combatant defence and the civil population during air warfare. Nevertheless we cannot plead ignorance of the subject and our own experiences in London during the Great War form a most valuable basis for considering the future.

The defence of the population of London seems often to be dismissed in purely military circles with one of two assertions. Either it is declared that a few air raids will do the civilians no harm since it may give them an inkling of conditions on the battlefield; or we may be told that the London public, as a whole, paid very little attention to the aerial attacks of the war and that only a few mental weaklings suffered any evil results therefrom; it is sometimes added, that in any future air war they "will have a fairly warm time of it." Those who had the opportunity of forming opinions on the spot during the late war will, however, regard these matters in a more serious light. There is little need to attempt to gloss over any weaknesses that were revealed during the days of trial.<sup>1</sup>

<sup>1</sup> From personal observation I would state, for instance, that as a result of the aeroplane raids on London in September, 1917, the morale of the East End population weakened visibly at the end of each moonlight period. I saw whole streets of houses deserted from dusk to dawn; their tenants were occupying "pitches" in the Thames tunnels and other shelters. The sole topic of conversation was the possibility of raid at night. It is not surprising that there was a clear reaction on the industrial output of these districts.

The facts of the case—this statement is made with complete confidence—are familiar to all our Allies who had representatives in our capital from 1914 to 1918. Paris, moreover, no less than London, was attacked from the air; several other Allied towns were called upon to withstand aerial bombardment. Many of the Rhineland cities were just as severely assailed. In fact, our own experiences may be regarded as having been largely common to all belligerents. It might also be added that certain Continental Powers have been studying the aerial lessons of the war more openly and more generally than has been the case in this country. There is, therefore, neither room nor reason for reticence concerning these questions—except in the province of future tactics and technical progress. For present purposes, however, we will limit ourselves to two premises: firstly, that an industrial population must be protected if it is to continue to do effective work; secondly, that the civil population cannot be treated as a military organization but demands entirely distinct consideration.

Modern war, as Colonel Villiers-Stuart justly puts it, is a return to the primitive conception of the nation in arms, because the entire people is exposed to attack; also—a fact which he fails to add—this is particularly the case owing to the absorption of the bulk of the non-combatant population into the industrial processes which nowadays are required to support war. The French have clearly appraised the situation in their new law for the Organization of the Nation for War, which is merely the formulation of this view;<sup>1</sup> it is but the logical application of the lessons of the Great War to the situation of a belligerent in any future continental struggle. The French candidly admit that this new theory must result in a complete renunciation of the hitherto accepted distinction between combatant and non-combatant, in other words, an open acceptance of facts that were being tacitly admitted in 1918. We must, therefore, start with the assumption that the whole population of adjacent belligerent states can and, probably, will be exposed to the full severity of aerial attack. That, of course, is only the natural consequence of the circumstance that industry and industrial output have become the mainspring of war. In the case of Great Britain this is equivalent to stating that, in the event of a great continental war, the bases of supply are no longer situated on the mainland overseas, but will now be co-terminous with our industrial areas, while our lines of communication will begin not at the port of disembarkation but at the factory door. Thus both the wage-earning operative and the transport worker come into the ambit of the active operations—by air.

In order to secure a maximum and uninterrupted output of war material it will be necessary to ensure, both by day and night, a continuance of the conditions most favourable to work at high pressure in the factory, while the transport facilities may require to be kept going without interruption for the whole twenty-four hours. It will clearly be the object of the air attack to impede the routine of the factory, while

<sup>1</sup> See R.U.S.I. JOURNAL for May, 1927, page 377.



upsetting the regularity and efficiency of the transport system. This was clearly understood by the Germans from the very outset of the Great War, and the air raids of 1915-1916, however much they were and still are, ridiculed as operations of war, were fraught with a far greater menace than is commonly supposed. Thus it might be shown how in early April, 1916, the mere threat of a series of raids by a handful of Zeppelin airships over the space of one week threw totally out of adjustment the transport of the scanty supply of munitions to France at a moment when every round was of importance. A whole system of precautions designed to keep our factories and railways at work during air-raids resulted from this experience. Nevertheless, the Germans attempted to play on this weakness throughout the war. The mere fact of an enforcement of "air raid precautions," i.e., ordering a diminution of light, speed, or a suspension of dangerous operations and the like, in factories and on railways, resulted in a decrease of output or a slowing down of transport. Thus far it may be possible to credit the contemporary reports that the German aeroplane raids of September, 1917, exercised a strongly deleterious effect on the industrial output of the Metropolis; yet these raids were persistently qualified, from the military point of view, as negligible operations of war. Paris, of course, was far more demoralized in April-May, 1918, by the combination of air raids and long-range bombardment. The exodus from that city during these attacks is alleged to have attained a figure running into hundreds of thousands. But the evil results accruing from that attack were moral more than material, since Paris did not, and does not now, occupy the same position of importance in the French industrial or railway world as London holds in England. Having been regarded as possibly coming into the zone of military operations, Paris could also be treated by the French in their scheme of defence against aerial attack in a manner never contemplated for London. In 1871, it may be remembered, the seat of the national administration was shifted to Bordeaux during the siege of the capital. In August, 1914, a similar precaution was initiated, yet even in May, 1918, such a removal does not seem to have been contemplated. The machinery of the conduct of the war had probably grown far too complex to withstand such a transfer.

Still less would it have been possible to remove the seat of the administration from London in 1917 or in 1918. In addition to forming the nerve centre of the entire Empire, the machinery of Government in 1916-18 had become so complex and extensive that it is difficult to believe that it could have tolerated any removal. It must not be forgotten that London, in addition to constituting the capital of the country, fulfils three most important functions. These are:—

(1) It is a most important nodal centre of rail, if not of road, communication. The transport system of the country from the Northern Midlands down to the Channel has been made subservient to the requirements of the Metropolis in almost every regard; London is its focal

centre. In addition, the war revealed the fact that London, as a railway centre, possessed an importance of prime military significance. It was found that, between Reading and the North Sea, there existed only four or five pairs of rails whereby reinforcements and munitions of war could be railed across the Thames to the Southern ports without transfer by road across the river. All of these four or five lines *save only one* pass through London. Captured German aviators, brought down over or near London during the war, repeatedly stated that the principal targets pointed out to them in their instructions were the Thames bridges, and there can be no doubt whatever that the enemy's General Staff was fully aware of the value of these railway crossings over the Thames.

(2) The industrial capacity of London and of the surrounding country is enormous. The paralysis of this working agglomeration would cripple the prosecution of any war that could be sustained only by the whole industrial efforts of Great Britain.

(3) London is a food distributing centre of the first rank. For example, the imported meat supply of Great Britain depends on two depots—one situated at Deptford, the other at Birkenhead. The loss of the cold storage plant at Deptford might exercise a disastrous effect on the morale, if not the actual well-being, of the population of Southern England.

Similar considerations apply in some greater or lesser degree to all our industrial centres. Such are the consequences of the "industrialization" of modern war and of the necessary participation of the entire nation in its maintenance. The task of air defence must therefore aim at the following results :—

(i) The industrial life of the nation has to be protected against interference from the air, not only by active combatant dispositions, but by all those precautionary and complementary measures that may be necessary to preserve the morale and efficiency of large crowds of workers. The necessary measures of passive defence must, therefore, include the issue of public warnings of impending attack, the compulsory diminution or extinction of lights at night, the camouflage of factories, the provision of bomb-proof shelters and of fire and gas fighting appliances, also adequate police measures to check possible panic.

(ii) The transportation of the output of industry, and particularly of war material, must be safeguarded against interruption as far as possible. This, of course, is more difficult of achievement by day ; it can to a large extent be attained at night by means of measures regulating lights and speed. Nevertheless, special precautions relating to the transport of explosives should be enforced at all times. Such measures, even if largely moral in their purpose, are indispensable ; thus it was found, as late as 1917 that the London tramway

personnel was specially insistent on the enforcement of protective "air raid regulations." Until the latter had been properly organized, there were constant interruption in their work.

- (iii) The distribution of the nation's food is mainly a matter of protection of services of transportation. It requires no special discussion.

These precautionary measures will, on examination, be found to consist largely of safeguards against a deterioration of national temper, for there is no question but that successful hostile air attacks accompanying reverses by sea or land may play a considerable role in undermining public morale. It was fully in accordance with the German theory of war that the great onslaught against the British Fifth Army in March, 1918, should have been accompanied to the day by the opening of the long-range bombardment and aeroplane raids on Paris. The combined effect was indeed perceptible. To counteract such a possibility requires great perspicacity in the handling of publicity and of the press.

It is, in fact, not too much to claim that this aspect of the case is of equal importance to combatant measures of defence on the ground. Consequently, it is essential that the passive defence against aircraft of any great city—and of the country as a whole—should be supported by appropriate measures of publicity and of censorship. Publicity of all kinds concerning precautions against bomb and gas attack is indispensable; also the fullest information, in so far as military necessity permits, relating to actual attacks and the like.

Only when this form of what might be termed psychological attack on the national morale is studied can we begin to realise the full scope of aerial warfare. It is when the defence of the capital and of the national industry of a great power against aerial attack is envisaged that the significance of "air war" begins to stand revealed. It is a war waged very largely against industry, against those material supplies without which modern war cannot subsist. The safety of the home factories may thus be secured by air combats taking place hundreds of miles away. In 1914 we entered on the Great War after making a clean-cut division between the home territory and the theatre of active operations. It was as though we imagined a fireproof steel curtain had been dropped from the skies along the Straits of Dover and the Channel. Yet the air is one element and, to-day, those twenty odd miles of sea are as nothing to the machine that flies. Should we start a future war on the same conception we may pay dearly for this fundamental error. There exists to-day the closest connection between the purely land operations overseas and the air war over or around the seat of government, the factories and the food stores of a belligerent. It might indeed happen that no amount of pure military success, short of a final, sweeping victory of the very first magnitude on land could compensate for such

failure in the air. If the double attack on war industry and national morale really gets home, it might reverse the verdict of a successful battle on land. The warnings of 1915-16, slight and scarcely audible though they be, are there for those who care to heed the lesson. At the close of 1916 the Zeppelin menace was kept within bounds and the output of munitions from the Midlands flowed on almost unhindered by enemy action. The enemy's later aeroplane attacks on London fortunately did not influence the factories in the Midlands.

To return to more practical considerations.

How is our civil population to be defended against air attack? The surest manner of defending that population must be to keep at a distance the aerial enemy. This result will only be achieved by carrying the "air war" into hostile territory; it is, therefore, no concern of our discussion. Secondly, there must be found the means of repelling the would-be raider in the air near or over the country, that is a second line of defence; that, also, does not come into our purview. Thirdly, there must be the organization of ground defences, searchlights and of an intelligence system; this has been thoroughly discussed by General Ashmore. Lastly, there must be ready for application a well thought out system of precautionary and preventive measures to supplement the above lines of defence.

In alluding to the last-named measures it must be realised that many of them partake of the nature of "combatant" precautions and therefore encroach upon policy or measures of actual defence, which cannot be discussed here except in an unsatisfactory or indiscreet manner. Accordingly we will content ourselves by alluding to three defence matters which, although they did not come greatly to the fore in the last war, deserve attention at the present date. These are:—

- (1) Duplication of means of transport in case of the severance of arteries of communication or of "congestion" in the London area. Such duplication would infallibly be effected by road, since the prospect of supplementing rail transport is impracticable, if only owing on account of expense. These schemes could well be considered by our combined Staffs forthwith, since they will cost nothing.
- (2) The protection (or alternative selection) of ports and of distributing centres for the continuance of the supply of food and of raw materials.
- (3) The evacuation of cities or of threatened areas. This matter can be studied on broad lines.

To begin with the problem of the Metropolis. Enough has been said to show that it would be idle to consider, as Major Dening in his article seems to do, the uncontrolled evacuation of a great portion of the population of London. If the Metropolis is to play its part in time of war as the seat of Government, as the nodal point of our railway



system, as a great industrial area, and, lastly, as an important food distributing centre, the scheme of calling for lists of those who would wish to leave the city previously to expected air attack is thoroughly unsound.

For one reason the factories and transport services cannot afford to be crippled because certain classes of essential workers would prefer to abandon their posts. The situation would be made to resemble that which prevailed during the General Strike of May, 1926. "Les bouches inutiles" can go—but no more. Nor would it be a workable proposition to form a huge camp of refugees at a place like Reading; neither the accommodation, nor the food facilities, nor the capacity of the railway system is devised to withstand such a total change in the distribution of our population. Moreover, if such a step were practicable, the refugees must obviously be transported to Dartmoor or to Wales; otherwise there exists the overwhelming risk of a hopeless panic spreading through such an agglomeration of refugees, already shaken in their morale, by the unexpected apparition of even a single hostile aeroplane. What a gift for the enemy such an opening might present. It may suffice to mention the mere fact that the question of evacuating the inhabitants of even a small coastal belt was studied during the Great War, and that the problem seemed then to offer no tempting solution. And at that time the possibility of panic spreading among these luckless people as a result of air raids had not to be taken into account.

Perhaps a very close scrutiny of the problem might show the feasibility of moving the seat of administration alone—together with a limited personnel—to a spot more suitable than London for defence against aerial attack. But the difficulties in the way of such a step are immense, whilst the risk of undermining the national morale as the result of an apparent flight of the Government offers grave dangers.

Let us now turn to an examination of the constitution of the authority that is to control the civil population during air warfare.

There must, of course, exist a combatant headquarters endowed with full powers of conducting the "air war" to defend Great Britain; whether there will be one, two or more such headquarters, and how the command of the first and second lines of defence outlined above will be effected is immaterial to our theme. We will, however, claim that there must exist a command for the organization and control of the ground defences. Now it does not seem possible that either of these headquarters could be entrusted with the full burden of managing the civil population. That such a course was found feasible during the late war may be ascribed to the tiny scale of the aerial operations, no less than to circumstances of the gradual creation of our air defences and their command. The progress that was made from 1914 to 1918 in matters of air defence may be judged from the fact that the first official communiqué concerning an enemy air raid over Great Britain was issued by the Home Office, virtually as a police matter. After nearly two



years of war it was found that a Coroner was not only required to hold an inquest on German aviators killed over England during a raid, but had full legal right to examine military personnel in the course of his enquiries and to demand all information from them as to the methods employed for attacking the raiders. The future will see a different scale of war and different modes of warfare.

Again, it may be confidently asserted that no single Ministry representing any one fighting Service will be able to grapple unaided with the "civil aspects" of air defence in the future. It is therefore suggested that there must be created some executive body which can co-ordinate, and reconcile, where necessary, the civil interests concerned by aerial defence, while at the same time it will be able to issue orders supported by the authority of the combatant headquarters to the various civil authorities and organizations concerned—some of these seem to be quite correctly designated by Major Denning on page 259 of his article.

The suggestion put forward in a previous article published in this JOURNAL, to the effect that the application of the Defence of the Realm Regulations would demand the creation of a special body, which the author put forward as a "Defence Commission,"<sup>1</sup> seems to follow the above train of thought, namely, that a civilian executive is required and should function at the instigation of the fighting Services and be able to impose its behests on the civil Departments of State in all matters of defence. If—as seems probable—it should be found too unwieldy an instrument, the administrative business arising out of Air Defence should be handled by a small Committee working in conjunction with that Commission. The latter would deal only with the general enactment of Regulations and issue more important instructions affecting the policy of Air Defence to the Departments concerned. The defence measures should be left to the smaller Committee. This should be under the chairmanship of a highly placed Civil Servant with duly defined executive powers. This personage would naturally occupy a conspicuous place on the staff of the headquarters entrusted with the air defence of Great Britain.

Similarly the various municipalities which are affected by the scheme of national Air Defence should each form a "Defence Committee" which would work at the side and at the call of the local Air Defence (or other combatant) Commander with a view to carrying out the requirements of the defence affecting the civil population. In a rough and ready manner their work might be compared to that of a military "administrative" staff, but applied to the civil population.

Whatever be the decision as to the means to be adopted for the control of the civil population in time of aerial attack some system must be elaborated. If the views set forth above find favour, the following points seem to demand early solution:—

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<sup>1</sup> See page 486 R.U.S.I. JOURNAL, August, 1926.

- (1) Is there to be a civilian organism to deal with the inevitable civil problems accruing out of air defence in war, in order to assist the combatant headquarters?
- (2) If so, will it be instituted forthwith with a view to grappling with these problems and to work out a full scheme for application in case of attack?
- (3) Will this organism be constituted under the chairmanship of a Civil Servant of position and experience with the assistance of civilians, policemen and ex-officers possessing first-hand knowledge of air defence acquired during the late war and ready to work on a voluntary basis?
- (4) Can local municipal committees be set up to devise schemes for the application of air defence precautionary measures?

The points which require attention under this heading may be summed up as follows. Some can only be dealt with by a central authority, but several must depend on a strongly decentralized control for their elaboration. We can safely return to the experiences of the Great War, for the matters then requiring settlement will unquestionably recur in a future conflict by air only in a more intense form.

- (i) *Issue of Public Warnings.*—In 1915 a somewhat futile attempt was made not to issue warning of impending aerial attack, although in the case of airship raids the information obtained from radio-telegraphic sources was both early and unmis-takable. But as time went on it was found impossible to stifle the public desire for a system of this kind and a method was evolved of issuing warnings. At first this was limited to factories engaged in war work, but subsequently it was extended to the entire public; it must be repeated;
- (ii) *Extinction of Lights.*—This was found to be an urgent necessity, particularly in the case of factories and railways. There is no need to enter into the difficulties of this problem. In the first place, it is a virtual impossibility to plunge a great town into darkness, although this was actually done in the case of a smaller and non-industrial city such as Norwich; but even there, at times, when enforced, the process paralysed all the activities of public life. A further difficulty standing in the way of obscuring street lighting is that the public and domestic lighting circuits (gas or electricity) are not distinct from those supplying street lighting;
- (iii) *Maintenance of Transport Services.*—Throughout the war it was found essential to maintain all transport services in full working order. This was finally effected by compulsory precautionary measures—chiefly affecting light and speed;
- (iv) *Control of Telephones and Telegraphs during Air Operations.*—This is effected through the agency of the Post Office;

- (v) *Provision of Bomb-proof Shelters*;
- (vi) *Supplementary Police Measures*, including the raising of Special Constabulary;
- (vii) *Constitution of Special Fire Brigade Areas*;
- (viii) *Instruction of Police and Fire Brigades* as to dealing with unexploded bombs, shell, aeroplane wreckage and captured aviators; to this must now be added gas bombs;
- (ix) *Issue of Communiqués and other Matter for Publicity*.—This constitutes the most difficult if not the most important of these duties. As an instance of what may happen, it is possible to cite a case where some false information was once published for enemy consumption. The loudness of the complaints, that even reached the House of Commons, concerning this unfortunate attempt proved the extreme risk that underlay such a step;
- (x) *Assisting in Assessment of Damage caused by Enemy Action for Government Compensation or checking information supplied to Coroners' Inquests*;
- (xi) *The Investigation of Reports concerning Secret Enemy Agency*.—This task was found to be of the utmost importance in soothing restless members of the public. Neglect of this task was often found to lead to openly expressed dissatisfaction at the conduct of the whole war;
- (xii) *Legal Work and Prosecutions arising out of Contraventions of Defence Orders and Precautions*.—A far heavier item than would seem probable.

Next comes the endowment of these various proposed authorities with the requisite legal powers which will enable them to enforce the necessary defence measures. This can be done by a re-enactment of the Defence of the Realm Act of the late war, together with its dependent Regulations. This is equivalent to Colonel Villiers-Stuart's "Emergency Act." The Regulations enacted between 1914 and 1918 still seem to cover the ground in a satisfactory fashion and it may be assumed that, on the emergency recurring, these same Regulations would reappear in perhaps a more complete and better codified form. The titles of the old Regulations are so instructive as to be worth perusal; these are given in Appendix I.

It may appear to be wandering from our theme of "civil aspects" of Air Defence to close with a reference to the past with a view to considering the future. But the digression seems warranted.

From Major-General Ashmore's lecture it might be gathered that the system of command of anti-aircraft operations is to remain much what it was at the time of the Armistice—or at any rate that it will follow the same lines. If the expected attack were to be planned on the

same scale and employ similar men and machines, no fault could be found. Otherwise this attitude seems hardly to be the correct manner of facing the problem. To place the Air Defence Command once more in a subordinate position to a purely military headquarters shows lack of imagination; it can only be the tradition of the past and the outcome of the manner in which the Air Defence of Great Britain was slowly hammered out during the Great War. In 1914 there were but a few inadequate anti-aircraft guns mounted at the dockyards; some more were hurriedly set up in and about the West End of London. The airman did not come into the picture; the defending aeroplanes were staged later, and as a secondary adjunct. During 1915 the system of dealing with air attack was gradually built up by a process that needs no discussion. Finally, in January, 1916, it was transferred to the Anti-Aircraft Section of the General Staff of General Headquarters, Home Forces. That organization, although at bottom a faulty combination of executive and staff functions, worked well. Later, in 1917, a special area was set up for the London Defences. The spade work had then been largely completed; but the change in the enemy's tactics, when he turned from airship to aeroplane attacks, necessitated an expansion of the defence measures and of its personnel. In like manner in any future air war the control of the defence may require a total reconstruction. For while the gun was at first the sole weapon, in 1918 the aeroplane was beginning to take the first place in the defence. In the future it must predominate.

General Ashmore states that the "defence ended on top of the wave." So it did; but was this not due in large part to the growing inferiority of the attack? The Zeppelin had been defeated by means of the incendiary bullet before the winter of 1916. What took its place? A single squadron of bombers, the German 1st *Kampfgeschwader*, brought from Macedonia and Italy to Ghent and there re-organized as the 3rd *Bombengeschwader*. From Ghent as its base this squadron began operations with three daylight raids over England, the first raid turned back from London owing to cloud and bombed Folkestone; the second and third found the Metropolis. They then took to night raiding and the rest of their activities are familiar. The defence grew in size and absorbed guns, men and munitions on an appreciable scale. But from the very beginning the quality of the 3rd *Bombengeschwader* was rapidly declining—both personnel and machines. The pilots had little experience when they joined their squadron and the service was never popular. The Gotha, Mark IV aeroplane, was not of the best construction; its speed was not great; its ceiling totally inadequate. During the winter of 1917-18 the giant multi-engined bomber first came over England; this proved—apart from its greater load of bombs—to be little more formidable than the Gotha. Neither type had an effective ceiling of over 10,000 feet; they were both unhandy. They were manned by the inferior product of the German aviation schools. It was an open secret in German air circles that things were not going well at Ghent, and a

new Gotha, Mark IV\*, was under construction for the season of 1918. This machine, with a crew of two instead of three, was designed to attain a ceiling of 18,000 feet and possess a greater speed. The guns of the defence would have found it a harder nut to crack than the older Gotha. It never materialized.

The greatest number of planes that the 3rd *Bombengeschwader* ever sent out to attack London was about thirty-two. Of this total thirteen dropped bombs on the Metropolis. Some machines gave up even before crossing the coast line, others could not rise to more than 9,000 feet and funk'd badly. This happened on 19th May, 1918. Previous to that date the squadron had with great difficulty maintained little more than half its establishment of machines fit for flying owing to the difficulty of obtaining spares and to the claims of the Western Front for all good pilots. It was the last attempt of a demoralized unit that had been screwed up to one more attack. One may well ask if this is a true presentment of the air war of the future. The issue may be summarised by the question: is the attack on London to become a major operation of war or are we to count on the enemy allowing it to be relegated to the status of a fifth-rate side-show as in 1917-18? Excessive confidence in the future may not be felt by those who witnessed the Air Defences of London in their palmiest moments and who, at the same time, caught a glimpse of the mechanism of the attack. It is on account of the very real risk of a most disagreeable dis-illusionment of the population of London in any future war that the whole question of the "civil aspects" of Air Defence demands most careful consideration.

#### APPENDIX I.

The list of Regulations, and their titles, which were applicable to aerial defence conditions is given below. Many of these Regulations were, of course, originally intended to meet other forms of hostile activity than air attack, but that did not affect the authorities having free recourse to their agency in matters appertaining to air defence.

Regulation 2. Power to take possession of land (for the installation of defence works, aerodromes, etc.)

- " 5. Power to close roads.
- " 8d. Power to supply of water, light, heat or power to certain premises (this would cover works of defence).
- " 9. Power to clear areas of inhabitants.
- " 11. } Power to extinguish lights.
- " 11a. }
- " 12. }
- " 13. Power to require inhabitants to remain indoors.
- " 17a. Power to require use of premises as public air raid shelters.
- " 17b. Power to require erection of hoardings before damaged buildings.
- " 25. } Prohibition on illicit signalling, use of unauthorised signals and
- " 25a. } sounds.



- Regulation 25b. Powers as to anticipated attack by aircraft.
- " 26. Prohibition on displaying lights, use of fireworks, etc.
  - " 27. Prohibition on spreading false or prejudicial reports.
  - " 29. Prohibition on approaching defence works.
  - " 35a. Rules for factories where explosives are stored.
  - " 35b. Penalty on neglect to report finding bombs, etc., from hostile aircraft, etc.
  - " 35bb. Burial of enemies killed in hostile operations.
  - " 35c. Rules for naval, military or munitions area.
  - " 55a. Constitution of special police area.
  - " 55b. Constitution of special fire brigade area.

The scope of the Regulations can best be judged by quoting an extract from erstwhile Regulation 25b, which ran as follows:—

"The competent military authority may issue orders specifying the action to be taken, in accordance with any pre-concerted scheme, by persons and authorities in the event of notice being given to them, in a pre-concerted form or manner, in connection with an anticipated attack by hostile aircraft. . . ."

Extensive and constant use, it may be added, was made of the powers conferred on these authorities by this Regulation.

## SOME THOUGHTS ON TANKS

By MAJOR J. C. TILLY, D.S.O., M.C.

EVER since war has been, man has, consciously or unconsciously, tried to combine the three essentials to successful offensive action, namely: hitting power, mobility, protection. In very early times this object was attained by the sailor, for the simple reason that the problem of mobility was already solved for him by his ship. Not so the land warrior, who found that he could evolve very efficient hitting power and protection, yet failed to provide the motive power to obtain the mobility owing to the great weight involved in the two former. Hitting power and mobility have been, and always will be, the two great essentials for the fighting man. Without hitting power it is not possible to damage the enemy, and without mobility it is not feasible to get at him to damage him. Consequently, from the time that body armour was finally overcome by the long-bow and musket (i.e., by hitting power and mobility) until 1916, personal body protection was at a discount on land. The invention of the internal combustion engine overcame the weight disability and gave us the Tank.

In its present form the Tank is really an entirely new weapon, about which much is surmised but very little is really known, because it is the first time that hitting power, mobility and protection have been combined in one vehicle, or more properly in one vessel on land. There is as much difference between the Tank of 1918 and the Tank of to-day, as there is between an armoured foot soldier of the middle ages and the modern cavalry soldier; that difference is nothing more or less than increased mobility.

The earlier Tank had a speed of  $3\frac{1}{2}$  to 4 m.p.h. on good ground, and on bad ground 1 m.p.h. or possibly less. It took at least one minute to turn it round and very often much longer. It had a radius of action of 12 to 15 miles, also a mechanical life, under favourable conditions and without overhaul, of 45 miles. In addition to the above there existed the lighter whippet Tank, armed with automatic rifles only, with a maximum speed of 12 m.p.h. and a cruising speed of 6 m.p.h. and a radius of action of 30 miles. A very useful weapon, of which so very few existed that their work was not generally known or appreciated.

The maximum speed of the modern Tank is between 20 to 23 m.p.h. with a cruising speed of 15 m.p.h. It has a radius of action of over 90 miles without refill, and a mechanical life, without overhaul, of 1,000 miles. Petrol, oil and grease can be carried for a refill, giving it a radius

of action of over 180 miles. But this refill cannot be carried into action if such be impending ; in that case the refill carried on the Tank must be unloaded. During the manoeuvres of 1925 Tanks marched over 70 miles in a night (a dark night on unreconnoitred roads) and arrived at daybreak on the flank of an opposing army, and moreover, having accomplished this, were in a condition to manoeuvre and fight for another 13 hours.

Meanwhile modern writers have a tendency to delve into the distant future, and to attempt to visualize the weapons that we might have to fight within 10, 20 or even 50 years time, also the methods of their use. This seems a somewhat unprofitable speculation, seeing that we do not yet properly know how to employ such Tanks as we possess, to best advantage. Let us, then, examine the Tank situation as it stands to-day.

#### *Present Characteristics of the Modern Tank.*

- (i) Cruising speed : 15 m.p.h. ; maximum : 20 to 23 m.p.h.
- (ii) Radius of action : 90 miles ; double, if refill is carried.
- (iii) Possesses great hitting power (both fire and crushing power).
- (iv) Tank formations can be controlled like naval formations ; even this is capable of vast improvement.
- (v) It is easy to conceal.
- (vi) It can break off an action when opposed to cavalry, artillery or infantry, at its own pleasure.
- (vii) Exerts great moral effect.
- (viii) Proof against rifle and machine gun fire ; while its speed and powers of quick manoeuvring make it a difficult target for artillery.
- (ix) Blindness is fast disappearing.
- (x) Vulnerable to gun fire and also to heavy machine guns firing armour-piercing bullets.
- (xi) Can be held up by rivers, marshes and dense woods, but by its pace, can easily move to a bridge over a river, or circumvent dense woods and marshes.
- (xii) Wide trenches will stop it ; but will there be many wide trenches if war can be kept mobile ?
- (xiii) It cannot break off an action when engaged with Tanks of equal speed and armament.

#### *Characteristics which can be acquired.*

- (i) It might be given a gun capable of throwing an effective smoke screen.
- (ii) It should be rendered gas proof.

If we study these characteristics we see that our present weapon possessing pace, fire power, crushing power, a large radius of action, and exerting an immense moral effect, is really a fast land ship in the nature of a torpedo boat destroyer. It is essentially a weapon of surprise and of opportunity.

If full advantage is to be derived from the Tank, the powers which it possesses must be turned to the best account. It is, therefore, obviously unwise to tie it too closely to slower moving arms, although its present function is undoubtedly to co-operate with these arms and do its utmost to assist them to gain their objectives. The function of the aeroplane is to co-operate with the other arms, but it does not try and carry this out by hovering just above them; on the contrary, it uses its speed and radius of action to carry out the common task.

It has been said that the gun is the great enemy of the Tank. This statement is correct, if the gun can hit the Tank, and if the enemy possesses sufficient guns to cover all quarters from which the modern Tank can approach him. But can the gun hit the Tank? and will an enemy disperse his guns, even if he possesses sufficient of them, so as to cover his front, flanks and rear, in such strength as to stop a powerful Tank attack?

The Germans, during the latter stages of the Great War, devoted many guns to anti-tank work. They had good reason to do so, and they handled these guns well and inflicted numerous casualties, but even in the battles where they made big Tank "bags," they never succeeded in stopping a Tank attack. The surviving Tanks invariably completely routed the defence. Further, if the Tank casualties are taken in proportion to the number engaged, they will be found to have been relatively small. It was the Flanders mud that beat the Tank, never the gun. Moreover, on the occasions when the Germans made a big Tank "bag" on ground where the Tanks had really good going, as at Cambrai on the Flesquières Ridge, and on 8th August, 1918, along the Roye-Amiens Road this was entirely due to faulty Tank tactics, or lack of tactics, inseparable from a new arm. Both the above-mentioned battles were Tank successes. Further, it must be remembered we were using a slow Tank which presented a very large target and lacked manœuvring powers.

How will the gunner fare against a Tank attack moving at 20 m.p.h., when each Tank can "jink" and turn as readily as a polo pony, and when that attack may be approaching him in a studied formation with extended scouts and with a smoke screen in front; then too, if the Tank formation does not wish to engage the guns, it can swerve and leave the gunners blinded with a few rounds of smoke. If the gunner is lucky, he will be able to "bag" one or two. Again, how will the infantry contend with the fast Tank once it is among them? The answer is "They cannot contend with it" armed as they are now. Give them a heavy machine-gun with an armour piercing bullet, and they can make themselves very unpleasant to the Tank. In April, 1918, between Bois

L'Abbée and Hangard, six whippet or then fast Tanks, caught a German regiment in close formation and actually ran over 400 men.

In F.S.R., Section 73, Para. 1, last line, it is said: "Once Tanks can close with the enemy, their effect is locally decisive." Tanks can close with the enemy; consequently, given a sufficient number of local successes, i.e., sufficient Tanks, the battle will assuredly be won. What is a modern encounter battle but a number of local successes or failures? The side with a big preponderance of local successes must win. Again, it is said that "Tanks cannot hold a position," but why hold a position? If the enemy is destroyed or fleeing, there is no need to hold one. The Navy do not hold positions in mid-ocean, why should a fast land ship attempt to do so on land? Again, Tanks can deny a position to an enemy by driving him from it and then themselves retiring. If the enemy re-occupies it, can they not drive him off again?

If the foregoing remarks *re* Tanks are true—and there are adequate arguments available to show that they are true—why not then have a Tank army? The Tank combines the functions of infantry, artillery, cavalry, while it can, and it will in time, possess anti-gas qualities, i.e., hitting power, mobility, and protection under most, but not quite all conditions of war. No doubt such an army will come, but not for many years; the development of new arms in peace time is necessarily slow, since it is hindered by the lack of money and prejudice. But, putting finance and prejudice out of the question, would it be advisable to "put all our eggs in one basket," and rely on nothing but a fleet of Tanks, a really efficient and up-to-date fleet? Let us try and imagine what such a fleet would involve.

First, to create a Tank Army the necessary plant to build it must be available, and if cross-country traction were a commercial proposition in the British Isles this difficulty would be solved; but cross-country traction on a large scale will, in the writer's opinion, never be a commercial success in this country owing to the numerous and excellent roads which connect every centre of population. The necessary plant would, therefore, have to be put down and maintained at Government expense; this must prove a colossal undertaking, because not only has the Tank Army to be created, but the wastage of war must be replaced at a moment's notice; to undertake this job, sufficient plant must be available.

Secondly, let us suppose the problem of production to be overcome and that it be decided that this country should rely entirely on a Tank Army. We should have to go to war as soon as our Tank Army was complete, before our rivals not only armed themselves similarly, but evolved a stronger type of Tank. So endless competition must arise.

Thirdly, our commitments throughout the world are so vast and the territories in which we may have to fight are so varied, that it would be impossible to tie ourselves down to one arm. As an instance, take the N.W. Frontier of India. Even in this difficult country, Tanks should

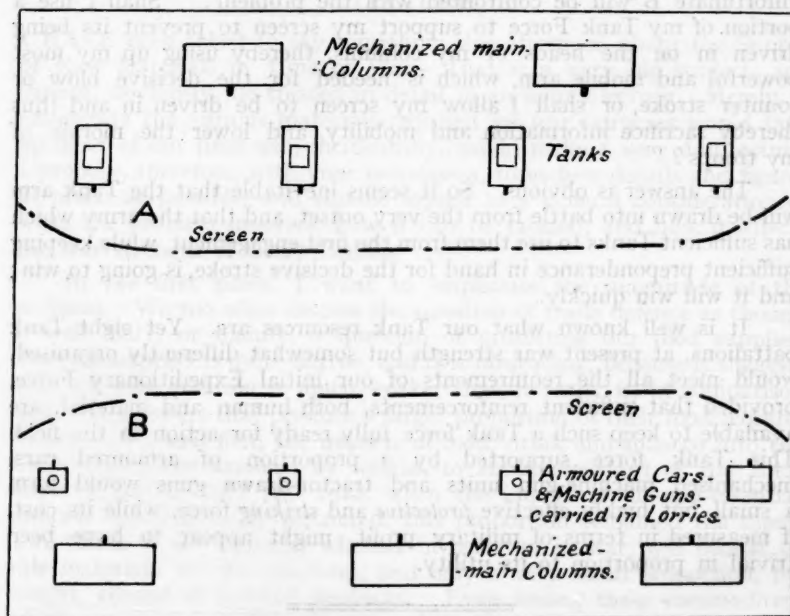


be of value, even if only used to keep open communications in such districts as the Khaibar Pass or the Kurram Valley. Tanks could also carry out limited operations but they could not possibly carry out an entire operation against hill tribes. To do this successfully all arms are required.

Fourthly, the present Tank is a new weapon, and will continue to be a new weapon for some time to come. Every improvement in speed, visibility, radius of action, increase of mechanical life, etc., opens up fresh possibilities for both the tactical and strategic use of Tanks. Consequently, as these factors continue to alter, so will Tank tactics follow suit, remaining always in a fluid state until these factors become, for a time, stabilised. Further, the cost of producing improved types of Tanks almost yearly in large numbers is prohibitive.

If the foregoing conclusions are correct, what proportion of a modern Army should consist of Tanks?

It is most definitely laid down in our recent training pamphlets that the bulk of the Tank arm with the Expeditionary Force will be kept in hand for the decisive stroke, at the decisive time and place, and there can be no doubt that this dictum is only common sense. Yet one may ask whether it will be possible for a commander to do this? Before two hostile armies meet and battle is joined, one or other or both, must advance. Both armies, before they meet, need the protection of a



strong screen ; while each screen will attempt to pierce the opposing screen and throw it back in confusion on the heads of the advancing columns. Success will confer a great advantage on the winning side, since this will possess accurate information as to the enemy's movements, whereas the latter will be working in the dark. Let us suppose that A and B are two advancing armies, each covered by a screen ; but A has a preponderance of Tanks of two to one.

A decides to support his screen by a proportion of his Tank arm, which he concentrates in large groups in immediate rear of his screen, and ready to support it. B cannot afford any of his Tank arm to support his screen, which he is only able to stiffen by means of machine-guns carried in lorries, a few armoured cars (both of which are tied to roads), and tractor-drawn guns. Now, other things being equal, which screen is going to be successful in carrying out its task ? A's, composed of the human and animal element, supported by a strong Tank force, or B's composed of the human and animal element, supported by a few wheeled as opposed to track vehicles ? The answer is not far to seek, and can be illustrated from the recent war. The German advance through the Ardennes in 1914, was covered by a screen supported by many machine-guns carried in lorries and completely overcame the French cavalry screen, unsupported by any mechanical transport. If this principle be accepted, we can only assume that the unfortunate B will be confronted with the problem : " Shall I use a portion of my Tank Force to support my screen to prevent its being driven in on the heads of my columns, thereby using up my most powerful and mobile arm, which is needed for the decisive blow or counter stroke, or shall I allow my screen to be driven in and thus thereby sacrifice information and mobility, and lower the morale of my troops ? "

The answer is obvious. So it seems inevitable that the Tank arm will be drawn into battle from the very outset, and that the army which has sufficient Tanks to use them from the first engagement, while keeping sufficient preponderance in hand for the decisive stroke, is going to win ; and it will win quickly.

It is well known what our Tank resources are. Yet eight Tank battalions, at present war strength but somewhat differently organised, would meet all the requirements of our initial Expeditionary Force, provided that sufficient reinforcements, both human and material, are available to keep such a Tank force fully ready for action in the field. This Tank force supported by a proportion of armoured cars, mechanised machine-gun units and tractor-drawn guns would form a small but highly effective *protective* and *striking* force, while its cost, if measured in terms of military profit, might appear to have been trivial in proportion to its utility.

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## THE SUPPLY OF RAW MATERIALS IN TIME OF WAR

By C. ERNEST FAYLE.

On Wednesday, 12th January, 1927, at 3 p.m.

ADMIRAL SIR R. G. O. TUPPER, G.B.E., K.C.B., C.V.O., in the Chair.

THE CHAIRMAN in introducing the Lecturer said: He will be known to many of you here as a lecturer at the three Staff Colleges and at the Naval War College on the Economic Element in War; he gave a lecture here two years ago on "Maritime Power and Continental Alliances" and he is the author of the official history of "Seaborne Trade in War"; so that I think we may anticipate a very interesting lecture.

### LECTURE.

I HAVE been asked to say something this afternoon about the Supply of Raw Materials in Time of War. That is a very big subject, and cannot, obviously, be treated in detail in an hour's lecture. Merely to enumerate the various materials required for war purposes would take up most of our time and, incidentally, would make a very dull lecture. I propose, therefore, with your permission, to eschew details and figures as much as possible, and confine myself to a general consideration of what the problem involves, how it can be tackled, and how it affects the war strength of Great Britain.

In the first place, I want to emphasise the magnitude of the problem. We too often discuss the question of trade defence as though it were only, or mainly, a question of protecting our food supplies. That assumption is quite untrue, and it is misleading, because it suggests that our own position is much weaker than it really is, in comparison with other powers that produce a larger proportion of their food requirements. In actual fact, the imports of food, drink and tobacco into the United Kingdom amount, by weight, to about one-third of the total imports, and in 1917 and 1918, when the import of all non-essential imports was drastically restricted, this proportion remained the same. Two-thirds of our imports, whether in peace or in war, will consist of raw materials or manufactures, and only a very small proportion, by weight, consist of finished products. Even among those commodities which are classed as "wholly or mainly manufactured" in the Board

of Trade returns, many of the bulkiest, such as pig iron, copper and tin blocks or ingots, and refined petroleum, are really the raw materials of British industries.

This dependence on oversea supplies of raw material we share, in varying degree, with every great industrial power, and I would ask you to note that the process of industrialisation in any country almost inevitably increases its dependence on seaborne trade; for the raw material used in an industry is usually heavier or bulkier than the finished product. The iron ore required to produce a given quantity of steel plates, will require at least three times as much shipping to carry it as the steel plates themselves. When a country builds up a new industry, by tariffs or subsidies, it may relieve itself of dependence on foreign manufactures, but it may also find itself with a larger volume of shipping to protect in time of war.

#### REQUIREMENTS OF THE FIGHTING SERVICES.

How far it is necessary to protect the supply of raw materials in time of war depends, in the first place, on the requirements of the fighting Services. It would be an impertinence, in addressing such an audience as this, for me to dwell on the ever increasing importance of war material; but I am not sure that even sailors, soldiers and airmen, always realise fully just what their need of battleships, guns, ammunition, tanks, aeroplanes, and the rest, means when translated into terms of the raw materials required for their construction. The variety and the size of the demand are alike amazing. It is not only the big, obvious things like iron and copper that are needed. The iron ore from which we produce steel for armour plates and projectiles is useless, unless we can obtain nickel and tungsten to harden and toughen the steel, and molybdenite for use in the manufacture of steel tools. The munitions industries develop an insatiable appetite for oilseeds. We realise that we cannot extract aluminium from bauxite without the use of a substance called cryolite, found at Ivigut in Greenland, and at no other place on the surface of the earth. In 1918 the joint programmes of the British, French, Italian and Belgian Munitions Ministries amounted to eighteen million tons—and this was for munitions alone; it does not include steel for naval construction, timber for trenches and dugouts, oil for naval and air fuel, wool and leather for military clothing and equipment, or a hundred other requirements of the Services. A truer picture of Service requirements is given by the fact that, in 1917, out of about twenty-one million tons of imports, other than food and oil fuel, into the United Kingdom, fourteen millions were for account of the Ministry of Munitions, War Office or Admiralty. It is true that some part of the materials controlled by these Departments was subsequently released for use in civil industries; but as a set-off to this the imports of the Timber Controller and the oilseeds imported by the Ministry of Food included a large proportion for military use.

## REQUIREMENTS OF CIVIL INDUSTRIES.

Our task, however, is not completed when we have fulfilled the direct requirements of the fighting Services; the raw materials required by civil industries must also be considered, and particularly the requirements of the export trades, because it is by the products of those trades that we pay for the food and munitions materials we require from abroad. Here we cannot afford to take the late war as a precedent. In that war, shortage of tonnage and military requirements compelled us to cut down the supply of materials to civil industries to such an extent that, to take only three instances, our exports of cotton piece goods—the most valuable of our staple exports—diminished in volume by 48 per cent., our exports of woollens and worsteds by 42 per cent., and our exports of iron and steel by 67 per cent. It does not follow that we could do this again; for in 1917-18 the United States, our chief source of supply both for food and munitions, was associated with us in the war, and Congress voted immense credits to Great Britain and the European Allies. That is to say, they paid the producers of wheat and munitions on our behalf, and left us to repay at our leisure after the war. No neutral Government could act in this way, and the supplies we require from neutral countries in a future war must be paid for as we go. To do this, the supply of materials to the export industries must be maintained.

Further, we must have ships to bring in the supplies we need, and efficient railways and road transport to handle the stuff at this end, and this entails the provision of materials for the construction and repair of tonnage and rolling stock. We very nearly lost the war in 1917, because the supply of steel for merchant shipbuilding was quite inadequate to replace our losses.

Finally, the civil industries as a whole must be kept going, so far as possible, in order to prevent such a degree of unemployment and distress as might endanger the stability of the home front, and in order to create wealth which can be taxed or borrowed by the Government to finance the war.

## DEPENDENCE OF ALL POWERS ON IMPORTS.

Let us see what all this involves. In 1918, the last year of the war, our imports other than food, amounted to twenty-four million tons, of which twenty millions were definitely classed as raw materials. This was the minimum to which these imports could be reduced, when all civil industries were being ruthlessly sacrificed, and the financial position had been eased by American co-operation. In 1924, twenty-seven million tons of imports were classed as raw materials and a considerable addition should be made to this for partly manufactured products.

Does this indicate any exceptional weakness in our position? I think not. France imported in 1924 over forty-nine million tons of goods, including coal, classed as raw materials. The imports of other



countries, such as Italy, and Japan, are smaller in volume; but after all, what is really significant is not so much the volume of imports, but the proportion they bear to the total supplies. As I have said, I do not want to go deeply into figures, but a very few salient percentages will show how widely our own dependence on imported materials is shared by other countries.

First let us consider France. She imports the whole, or nearly the whole—from 90 to 100 per cent.—of her requirements for petroleum, copper, manganese, rubber, cotton, wool and silk; and you will note that the great bulk of these imports must inevitably come by sea. The imports of petroleum alone exceed one-and-a-half million tons. Those of cotton, wool and silk are particularly significant because the textile industries account for about one-third by values of the entire export trade. Her imports of coal for home consumption in 1924 amounted to twenty-five million tons, of which more than half was seaborne.

Look next at Italy. She imports, mainly by sea, from 90 to 100 per cent. of her requirements for coal, oil, copper, cotton and rubber. Her ten or eleven million tons of imported coal, 70 per cent. of it seaborne, are as vital to her national life as our own imports of wheat are to us.

Turn to Japan. She produces neither rubber, nor cotton, nor wool, nor manganese, nor lead in appreciable quantities, and nine-tenths of her iron and steel production is based on imported ores.

Even the United States, so much more nearly self-sufficing in most respects than any other power, depends on imports for her whole supplies of rubber, tin, silk, jute and nitrate, and from a half to two-thirds of her wool and manganese.

"But," you will say, "what about Germany—how was it that she was able to survive so long a period of isolation?" One answer is that she held on by sacrifices on which it is not good to dwell; for diseases arising from cold and dirt, due to the shortage of textiles, fuel and soap, played as large a part as shortage of foodstuffs in her terrible war mortality. Apart from this, her stocks of materials were practically exhausted by the end of 1918. Internal transport was breaking down through lack of repair materials and lubricants; the coal output was crippled by shortage of pitprops; petrol for the air service and rubber for field telephones was giving out; the quality of the ammunition had already begun to deteriorate through shortage of metals, and this although statues, busts, church-bells, the roofs of royal palaces, the very door handles and stair-rods of the Reichstag building, had been cast into the melting pot. Finally, I must remind you that the most vital of all Germany's imports of raw materials was precisely the one that we were unable to touch. Without the supplies of iron ore from Sweden, the German munitions industries could not have carried on, and it was not until May, 1918, that we were even able to conclude an agreement limiting those supplies to 3,500,000 tons a year.

## UNEVEN DISTRIBUTION OF NATURAL PRODUCTS.

I do not think I need further labour the point that the supply of raw materials in time of war presents to every civilised power a problem of the first magnitude. What that problem involves may be considered under three main heads—Purchase, Transport and Allocation.

Our first business is to get possession of such essential materials as cannot be procured from our own resources, and I would remind you that, while you may, if you think fit, protect or subsidise the production of foodstuffs, at the expense of industry, no effort or sacrifice will enable you to grow rubber or cotton in a northern climate, or to find nickel and manganese where nature has not placed them. What we cannot produce, we must buy where we can, and nature has been very capricious in her distribution of some of the most important materials. Let us take, by way of illustration, four products so essential as iron ore, petroleum, cotton and tin.

Iron ore is fairly widely scattered; but of the world's production from 40 to 50 per cent. is produced in the United States alone, and the bulk of the rest in North Western Europe—Great Britain, France, Germany and Luxemburg—with subsidiary sources in Scandinavia on the one flank, Spain and the Western Mediterranean on the other. Belgium draws large supplies from France, and Germany from France and Sweden. Great Britain imports one-third of her total requirements from Scandinavia, Spain and Northern Africa, and the imported are richer than the domestic ores, so that they account for about half our iron and steel production. Japan obtains her ore from a local minefield in China, the output of which is capable of great expansion. France and the United States alone can be termed self-sufficing.

Petroleum is still more unevenly distributed. Over 80 per cent. of the world's output is raised in the United States and Mexico. The minor sources of any importance are spread far apart in South America (Argentina, Peru and Venezuela); in South Eastern Europe (Russia and Rumania); and in Southern Asia (Persia, India and the Dutch East Indies). No great industrial country except the United States can fulfil its requirements, except by imports from oversea.

Cotton again is so restricted in its growth that the United States provides 70 per cent. of the annual yield. India, the next largest source, does not produce cotton suitable for fine spinning. The production of Egypt and British Africa is of very high quality, but it amounts only to about 8 per cent. of the whole. Great Britain, France, Germany, Italy, Japan all import the whole of their requirements.

Even the United States does not produce tin, which comes from two main, widely separated areas, one in Eastern Asia (Malaya, China, Siam and the Dutch East Indies), and one, Bolivia, in South America, with subsidiary sources in Australia and Nigeria. The United States,

France, Germany and Italy import their whole requirements; Great Britain and Japan the bulk of theirs.

There are many other products whose sources are still more restricted. Of 31,000 tons of nickel produced in 1924, 27,000 were in Canada and 3,600 in New Caledonia. Nitrate of soda is a monopoly of Chile, jute of India, cryolite of Greenland.

#### CONTROL OF SOURCES.

It is not surprising, in these circumstances, that the Great Powers have scrambled for the control of territory in which rare and essential raw materials are produced. Possession of such territory serves two purposes. It ensures that the supply shall not be cut off at once on the outbreak of war, and it gives the power of denying supplies to an enemy. It is easy, however, to over-estimate the advantages of territorial possession. If you control the trade routes you can bring supplies from neutral sources. If you do not, the supplies available in your own oversea possessions will be of little value to you. In the case of commodities which are somewhat widely spread, there is also the question of distance to be considered. If the losses suffered at sea, and the diversion of shipping from commerce to military transport have resulted in a serious shortage of tonnage, a neutral source within easy reach may be of more value than a politically controlled source at a great distance; for the shorter the voyage, the greater the number of voyages each ship can make in a given time. The tonnage required to bring, annually, 1,000,000 tons of imports from North America, would bring 1,200,000 tons from Scandinavia; but only 750,000 from South Africa or Argentina; only 400,000 from India, and only 300,000 from Australia or the Far East.

Both for this reason, and because the supply of any agricultural product, such as cotton or wool, in a particular market, is always liable to be affected by natural causes, such as drought, tempest or insect pests, it is extremely desirable to keep in touch with as many alternative sources of supply as possible, whether they exist in national or in neutral territory. Dependence on any single source, while sometimes inevitable, is always a source of weakness, whether that source be under our own flag or not.

There will always, however, be peculiar advantages in drawing supplies from national territory, if only because such supplies can readily be controlled at the source. But it is not only such supplies that we can, in fact, control. Our grip on the world's rubber supply in the late war was due not merely to the fact that 67 per cent. of the rubber plantations were in British territory, but also to the fact that another 13 per cent. were controlled by British capital and that, long before the United States came into the war, we had concluded an agreement with the American exporters, who held the largest stocks of rubber and rubber products.

Purchases made with the object not merely of fulfilling our own needs but of denying supplies to the enemy are obviously a matter for the Government. There is, I think, some conflict of opinion as to whether State buying in the late war achieved all that has been claimed for it in respect of economy and efficiency of supply; but purchases intended to establish control over the world output of any commodity need to be backed not only by the financial resources of the State, but by the bargaining power of the State, exercised through the refusal of British goods, or of shipping and financial facilities to a reluctant seller. The Allied control of supplies during the late war was built up on a system of agreements both with neutral Governments and with neutral traders, based largely on bunker pressure and export embargoes.

#### THE PROBLEM OF TRANSPORT.

Having purchased the raw materials we need, we have to bring them to this country, and I want to impress on you that this is not merely a question of ships being available. The carrying power of each ship on each voyage depends on her being stowed to the best advantage—an extremely technical business—and it is of the first importance that when Service and Supply Departments charter shipping for their purchases, they should leave this matter in the hands of men with practical experience of the job: not merely the actual loading of the vessel, but the selection of the goods to be carried by each ship, so that, by a combination of deadweight and measurement cargo she may be both down to her marks and filled to her full cubic capacity.

Again, the carrying power of a ship in a given space of time depends on the number of voyages she makes, and this depends mainly on the speed with which she can be loaded and discharged. The supply of munitions was seriously endangered in 1914-18 because the ports had been denuded of the physically fit men required to handle heavy cargo such as iron ore. It is no exaggeration to say that we could have imported several million tons a year more than we did during the late war, but for the chronic port congestion, arising in part from military demands on port labour and facilities, and in part from the incurable tendency of the Buying Departments to rush forward supplies faster than they could be received and distributed. If you want an adequate supply of raw materials in time of war, you must keep up the equipment and man-power of the ports, and you must ensure proper co-ordination between those responsible for purchase, shipment and discharge.

Meanwhile ships are being sunk by the enemy, and other ships are being taken up as transports or naval auxiliaries. The point may arise at which the available tonnage, however efficiently employed, simply cannot bring in all that we require. What are we to do? Obviously, the shipowner cannot take on himself to distinguish between what is more and what is less important for war purposes. Only the Government, with all the evidence before them, can say what is essential under war

conditions, and what, at a pinch, we can do without. It is for them to issue a list of those commodities which are less urgently required and prohibit their import, except by special licence, so as to set free all the available space for the carriage of essentials. This may be followed, as it was in 1917, by the issue to each of the great liner conferences of a Priority Cargo List showing, month by month, the actual quantities of the most essential commodities required from the countries served by the lines. In the Indian trade, for instance, they were to lift so many thousand tons of manganese, rice, oilseeds, tea, sandbags, jute, chrome ore, and certain other products, before they accepted anything else at all.

Before we leave this question of transport, I should like to say a word about the air. The air fleets of the immediate future are not likely to be of much use in the transport of bulky commodities; but there are materials of great importance to the war industries of which only comparatively small quantities are required, or produced. A few tons of tungsten or molybdenum will go a long way in the manufacture of special steels. Even in the case of such metals as antimony or nickel, which are rather more freely produced, a hundred tons or so is a serious matter. There was great rejoicing in Germany over the two voyages of the submarine, "Deutschland," although they only added 685 tons of nickel and 90 tons of tin to the German supplies. It has always been difficult to cut off altogether an enemy's supplies of these products, because of the ease with which small but valuable parcels can be smuggled through a blockade. It seems to me that the development of commercial aviation will add to the difficulty.

#### THE PROBLEM OF ALLOCATION.

When we have secured the necessary supplies and brought them to this country, there remains the problem of allocation—perhaps the most difficult of all. At first sight it looks so easy. The Navy, Army, and Air Force must take whatever they require; civil industries must get along as best they can with what is left. We have already seen, however, that the matter is not so simple. In order that the fighting Services may be supplied and equipped the export industries must be kept going to pay for them, and the transport industries to carry their requirements. Because the demands of the Admiralty and Ministry of Munitions left hardly any steel available for merchant shipbuilding in 1916 and 1917, we came very near being unable to fulfil the essential requirements of the Services in the later stages of the war.

The question is further complicated by the competing demands of the Services themselves. Let us say there are two million tons of steel available. The Admiralty want a million tons for new destroyers. The War Office want a million tons for munitions. The Air Force want a million tons for hangars at advanced bases. Each is convinced that fulfilment of its demand is essential to winning the war. But three into two won't go. You can't take more out of the hat than there is in it.



No Department can be the sole judge as to how far its demands can be met. The estimate of minimum requirements put forward to the Tonnage Priority Committee by the Food and Munitions Ministries, the Admiralty, War Office, Timber Controller, and Board of Trade, invariably gave a total much in excess of the amount the available tonnage could carry. No Department, in the long run, received its demands in full. Obviously, and quite naturally, they had all allowed themselves a fairly substantial safety margin.

When the total demand exceeds the available supply, individual demands must obviously be cut down. But this cannot be done merely by cutting off a given percentage of each demand; for some Departments may really have stronger claims than the others, either because they have budgeted more conservatively, or because their needs are more pressing. Neither can the matter be left to a mere tug-of-war between the Departments, for in that event, the biggest allocation may go, not to the Department with the strongest claim but to that with the most active political backing.

What is required is, first, a clearing house where the competing demands of the Services can be totalled, compared, and adjusted—not on a rule of thumb basis, but in the light of the existing strategical position at sea, on land, and in the air; secondly, a clearing house where the joint demand of the fighting Services and the requirements of those civil industries which are essential to the successful prosecution of the war, can be reviewed and adjusted in the light of the available supplies and carrying power.

The actual details of allocation will probably vary in respect of different commodities. Wool, in the late war, became a War Office responsibility, owing to the vast extent of the military demand. The supplies were distributed among the factories, and each factory was required to produce, first a given percentage of its output for the armies, and secondly, a given percentage for the export trades, before catering for the home market. Of cotton, only a very small percentage was required for military purposes. Supplies were greatly cut down and the incidence of the shortage was adjusted by the Cotton Control Board, a body representative of the industry itself, with a Secretary appointed by the Board of Trade, which put the whole of the mills on a régime of organized short time.

#### STOCKS AND RESERVES.

There remains the question of how far these problems of purchase, transport, and allocation, can be lightened by legislative or administrative action designed to decrease our dependence on overseas supplies. The increase of home production is largely governed, as I have already suggested, by climatic and geological considerations which we are powerless to affect. What we cannot produce, we must import; the most we can do is to accumulate stocks in time of peace, which will reduce our dependence on imports in time of war.

That policy has, I believe, been adopted by the British, by the Japanese, and probably by other Admiralties, in respect of oil fuel. It is not, however, equally applicable all round. In the case of such bulky and common commodities as iron ore, timber, or cotton, both the question of cost and the question of storage would probably be prohibitive. In the case of rare products of high value, abnormal purchases for the purpose of a reserve would at once send up the price in producing countries, and probably result in the formation of a ring against the purchasers. The formation of Government stocks is probably easiest in the case of commodities required mainly for war purposes; but the difficulty is, of course, that the application of science to warfare does not stand still, and it is not easy to say with any confidence which of the rarer metals and chemicals will be most in demand by the munitions industries of twenty or even ten years hence.

A somewhat different method—the compulsory building up of commercial stocks—has been adopted by the French Government in respect of petroleum. Every importer is licensed, and is obliged, as a condition of his licence, to maintain stocks equal to a quarter of his last year's import. The effect is that stocks equal to three months' consumption are always in hand. The experiment is an interesting one; but the method would not be equally applicable to all industries.

Where the normal demand is supplied partly from domestic and partly from foreign sources, a reserve can be created by limitation of the home output. The United States, for instance, import 50 or 60 per cent. of their annual consumption of manganese; but it is certain that the home output could be greatly increased in time of war, for the present policy of the buyers is to import a larger proportion of their requirements than is really necessary, in order to postpone the exhaustion of the American mines.

Such hidden reserves may be created, without any deliberate policy, by economic developments. There were tin mines in England before the war which had ceased to be worked because the richer and more accessible veins had been exhausted and the cost of extraction had become prohibitive; but they became valuable during the war when a cry arose for tin at almost any cost. So too, Japan imports copper to-day, because the low cost of production in the United States enables American copper to compete successfully with the native product; but there is no doubt at all that, if these imports were cut off, the Japanese mines could more than fulfil any probable demand. I want to emphasize this point, because in the investigation of any country's economic position from this point of view, it is essential to consider the maximum as well as the normal output.

#### SUBSTITUTES AND ECONOMIES.

Then there is the question of substitutes. The Germans, during the war, successfully used aluminium, of which they had a plentiful

supply, for many purposes hitherto served by other metals, and our own War Office saved sixteen thousand tons of steel plates in one year by the substitution of *papier maché* for tinned plate in packing. It is true that the marvellous results claimed for the German scientists were greatly exaggerated. Synthetic rubber was a complete failure; there was little warmth or wear in the textiles woven from paper and nettles; war boots of imitation leather soon wore out; war soap produced a plentiful crop of skin diseases. On the other hand, synthetic cryolite was successfully produced in Germany, though not in Great Britain, and the manufacture of synthetic nitrate has already dealt a heavy blow to the great Chilean monopoly. The French are at present experimenting actively in the production of synthetic petrol on a basis of vegetable or animal oils, or water gas. There is probably no direction in which a small peace-time expenditure is likely to give better returns in war than in the encouragement of chemical and industrial research; for even a process which, owing to its cost, proves commercially unworkable, may be of immense value in war when supplies are running short.

Finally, the problems of supply and allocation can be greatly reduced by a resolute endeavour to utilize to the utmost every scrap of material available. One of the chief difficulties in the supply of ammunition during the war was the shortage of glycerine, and 1,500 tons of glycerine was extracted from the refuse fats of military cook-houses, mess-rooms, and swill-tubs—a quantity sufficient to provide the propellant charges for 28,000,000 eighteen-pounder shells. Lead was recovered by the Army Salvage Corps from the lining of tea chests; solder from used bully beef tins; oil from condemned herrings. Woollen rags and cloth cuttings that would formerly have been thrown away were saved to a value of £4,000,000.

#### STRENGTH AND WEAKNESS OF GREAT BRITAIN.

After making allowance, however, for all possible economies, it seems clear that no civilized Power, with the possible exception of the United States, can wage war effectively, or sustain the national life during a prolonged conflict, without large supplies of raw material from overseas. We have, therefore, to ask ourselves what bearing this fact may have on the strength and weakness of Great Britain in time of war.

The weakness of our position is obvious. We depend on seaborne trade for our whole supplies, or practically our whole supplies, of petroleum, manganese, nickel, tin, rubber, cotton, silk, hemp, jute, and many other essential commodities; for much the greater part of our supplies of copper, lead, zinc and timber; for about four-fifths our consumption of wool, and for iron ore representing half our output of iron and steel. And the list could be indefinitely extended.

This weakness, however, is shared, as we have seen, by all other industrial countries. Our sources of strength are peculiarly our own. In the first place, the great extent of the territories comprised in the

British Empire, and their wide variety of climate and geological formation, enable us to draw at need from sources under British control, the whole of our essential requirements of rubber, wool, jute, manganese, tin, nickel, tungsten, and many other products, and in respect of some very important products such as wool, rubber, jute and tin, the Empire's proportion of the world's exportable surplus is so large as to leave any possible enemy with dangerously restricted sources of supply.

In the second place, the very magnitude of our requirements, for foodstuffs as well as for materials, has compelled us to develop a world trade without parallel in its extent and elasticity. We exchange goods with every country in the world; our ships carry goods for every country. A large proportion of the world's foreign trade is financed and insured in London. The resources of many foreign States, notably in South America, have been developed and are still largely controlled by British capital. The result is that it is easier for us than for anybody else to expand our purchases in accordance with the requirements of war; to find alternative sources of supply for any that are closed to us; to arrange for the finance and transport of our war requirements. This was very clearly proved in the Great War, when a large proportion of our Allies' emergency requirements were purchased through British agency, financed by British credit, and carried in British ships.

Further, the power to withhold these facilities gives us a very powerful weapon. It is safer to stop goods from being shipped than to trust to intercepting them on passage, and thousands and thousands of tons of materials urgently needed by the German armies were held back and never sailed at all, because neutral traders and shipowners knew that if they persisted in trading with Germany they would get no British tonnage to carry their goods, no bunkers at British ports, no credit from British banks, and no policies from British underwriters. We could never do alone all that we did by aid of the American embargoes; but of our own strength we could do much.

I feel that all I have said this afternoon has been nothing more than a preface or introduction to the subject. That, I think, was inevitable, even were I far more competent than I am, to discuss it in detail. My chief aim has been to suggest to you how very big and complex a problem it presents, also how important it is that it should be studied in detail and as a whole, with all the expert assistance that can be obtained. The more that is done in this or any other country, the less likely that country will be to go to war lightly; the better equipped it will be to face war if it should come.

#### DISCUSSION.

##### THE STRENGTH OF ENGLAND.

VICE-ADMIRAL CAULFIELD asked whether the lecturer was in agreement with the views expressed in a book by Commander Bowles, called "The Strength of England."

MR. FAYLE replied : " There are some points on which I should venture to differ from him, but I think he has done extraordinarily good service in bringing out the doctrine of what he calls sea centrality and the enormous importance of geographical position with regard to trade routes in the development of national power. That is a point of view from which history has not been sufficiently studied."

THE CHAIRMAN :

The facts which have been so ably put before us by the Lecturer this afternoon emphasize most clearly that it is more important than ever to keep the British Navy and the Air Force in a position to enable our materials to be brought to this country under all circumstances, whether of peace or of war.

It always strikes me that the majority of my fellow countrymen do not in the least realise the vast importance of the personnel of the Mercantile Marine upon which we depend, both in peace and in war, for our supplies of food and of raw materials. Most of them know very little indeed about the merchant sailor. They are always very pleased to see the uniform of the Royal Navy, the Royal Naval Reserve, and the Royal Naval Volunteer Reserve, but the men of the Mercantile Marine go about in plain clothes, and very few people think anything about them. As the masses depend for their daily bread and the majority of their food supplies on these men, I think it would be a great blessing if more notice were taken of them and if they were encouraged, entertained, looked after, cared for and helped in the many ways in which it is possible for the citizens of the Empire to do.

Mr. Fayle has quoted this afternoon some enormous figures which bring home to us the fact that it is impossible for us to get on without raw materials that do not exist in this country. Those figures must react upon us all, and must make us feel that the Command of the Sea, and the necessity for us having the largest Mercantile Marine in the world, must never be lost sight of. We want to encourage our boys and young men to keep that love of the sea which is born in a great many of us, and which we have inherited from our forefathers. We must keep that *sea spirit* alive. Fortunately we now have less foreigners serving in our Merchant Navy than was the case years ago, and I hope that in the future there will be no lack of British boys to man our ships, and no lack of British ships sailing to all parts of the world and bring us our food stuffs and raw materials. I desire to thank you, Mr. Fayle, very much indeed for the most able way in which you have put all these facts before us. You have been modest enough to say that you have touched only on the fringe of the subject, but I am sure, not only those who are here this afternoon, but all those who will read the lecture when it appears in the JOURNAL will feel that they have had quite a liberal education.

On the motion of GÉNÉRAL SIR E. G. BARROW, a vote of thanks was unanimously accorded to the Chairman.



### TABLES ILLUSTRATING WORLD DISTRIBUTION OF TYPICAL WAR MATERIALS.

The figures given below are intended merely to illustrate the points made in the lecture as to the uneven distribution of national resources and the dependence of industrial countries on imports, by reference to three or four of the great staple materials. The figures are taken from the Year Book of the International Bureau of Agriculture, and the Statistical Summary of Mineral Resources, published by the Imperial Institute.

#### (1) WORLD PRODUCTION OF IRON ORE, PETROLEUM, COTTON AND TIN.

<u>Iron Ore (1,000 tons).</u>			<u>Petroleum and Shale Oil (1,000 tons).</u>		
	<u>1924</u>	<u>1925</u>		<u>1924</u>	<u>1925</u>
United Kingdom ..	11,057	10,146	United States ..	101,991	109,106
France .. ..	28,527	35,167	Mexico .. ..	19,954	16,502
Germany .. ..	4,385	5,828	Russia .. ..	5,848	6,842
Luxemburg .. ..	5,248	6,565	Persia .. ..	4,245	4,578
Sweden and Norway	6,909	8,956	Dutch East Indies..	2,780	3,090
Spain .. ..	4,550	4,300	Peru, Venezuela and		
Algeria and Tunis ..	2,545	2,483	Argentina .. ..	3,109	5,481
United States .. ..	55,141	63,328	India and Sarawak	1,794	1,797
All other countries..	10,338	12,227	Roumania .. ..	1,831	2,275
			All other countries..	2,248	2,329
Total.. ..	<u>128,700</u>	<u>149,000</u>	Total .. ..	<u>143,800</u>	<u>152,000</u>

<u>Tin Ore, in terms of Metal (1,000 tons).</u>			<u>Cotton (1,000 metric tons).</u>		
	<u>1924</u>	<u>1925</u>		<u>1924-5</u>	<u>1925-6</u>
Malaya .. ..	47	48	United States ..	2,955	3,492
Dutch E. Indies ..	32	33	Brazil and Peru ..	175	188
China and Siam ..	15	16	India .. ..	1,105	1,100
Australia .. ..	3	3	China .. ..	469	441
Nigeria .. ..	6	6	Egypt, Sudan and		
Bolivia .. ..	32	32	Uganda .. ..	379	420
All other countries ..	6	8	All other countries .	251	320
	<u>141</u>	<u>146</u>		<u>5,334</u>	<u>5,961</u>

## (2) CHIEF EXPORTERS AND IMPORTERS OF IRON ORE, PETROLEUM,

## COTTON AND WOOL.

*Iron Ore (1,000 tons).*

<u>Exports.</u>	<u>1924</u>	<u>1925</u>	<u>Imports.</u>	<u>1924</u>	<u>1925</u>
France .. ..	12,089	9,078	United Kingdom ..	5,927	4,382
Spain .. ..	3,765	3,560	Belgium-Luxemburg	8,949	8,744
Algeria and Tunis ..	2,551	2,318	Germany .. ..	3,027	11,354
Sweden and Norway	6,368	9,076	United States ..	2,047	2,191
Newfoundland .. ..	744	1,117	Japan .. ..	1,057	1,086
Cuba . . . .	485	?			
China .. ..	840	809			

*Petroleum and Allied Products (1,000 tons).*

<u>Exports.</u>	<u>1924</u>	<u>1925</u>	<u>Imports.</u>	<u>1924</u>	<u>1925</u>
Mexico .. ..	19,539	14,509	United States ..	13,200	12,150
United States ..	14,600	13,800	United Kingdom ..	6,050	6,150
Peru and Venezuela	2,000	3,600	France .. ..	1,645	2,000
Dutch E. Indies ..	1,940	?	Italy .. ..	727	817
Russia .. ..	691	1,309	Japan .. ..	500	550
Rumania .. ..	431	772			
Persia .. ..	2,587	3,556			
Sarawak and India..	675	611			

N.B.—Some of the figures are approximate, owing to difference of classification in quantities recorded by volume. Oil shipped as bunkers' is not included in exports. The imports into U.S.A. are mostly crude oil from Mexico for refining in U.S.A.

*Cotton (1,000 metric tons).*

<u>Exports.</u>	<u>1924</u>	<u>1925</u>	<u>Imports.</u>	<u>1924</u>	<u>1925</u>
United States ..	1,510	1,920	United Kingdom .	654	801
India.. ..	585	743	France .. ..	281	326
Egypt .. ..	325	289	Germany .. ..	271	368
Brazil and Peru ..	47	70	Italy .. ..	201	239
			Japan .. ..	458	614

*Wool (1,000 metric tons).*

<u>Exports.</u>	<u>1924</u>	<u>1925</u>	<u>Imports.</u>	<u>1924</u>	<u>1925</u>
Australia .. ..	241	303	United Kingdom .	345	331
New Zealand .. ..	94	93	France .. ..	206	228
South Africa . .	79	95	Germany .. ..	128	121
Argentina .. ..	113	104	Belgium .. ..	49	43
United Kingdom (in- cluding re-exports)	186	178	United States ..	109	146

N.B.—Cotton and wool figures, except U.K. wool are net: i.e. balance of imports and exports.

## THE GREATEST CRISIS OF THE WAR

### A REVIEW.

By REAR-ADMIRAL ROBERT N. BAX, C.B.

FOR a hundred years previous to the war Great Britain had been a neutral, and it is not surprising that our country should have acquired the habit of considering maritime war from the neutral point of view. It was this point of view which led the Government to adopt an attitude with regard to the rights of neutrals and belligerents in a maritime war entirely opposed to that which our forefathers held during the wars of the XVIIth and XVIIIth centuries, when we were a belligerent fighting for our existence.

In 1856 we agreed to the Declaration of Paris which, among other things, bestowed immunity from capture on enemy goods in neutral bottoms. The Declaration of London proposed to extend these dangerous principles, but we were saved from actual ratification of it by the House of Lords who refused to pass it.

At the beginning of the war we tried to observe its provisions, but soon learnt, as our fathers had learnt, that a maritime power fighting for its existence cannot afford to tie one hand behind its back, and bitter experience compelled us to give up the attempt. In 1915, when the German submarines started sinking merchant ships at sight, we issued, as a retaliatory measure, the Order in Council of the 11th of March, which empowered the Navy to stop all goods of enemy origin, ownership or destination.

On the other hand, our experience as a neutral led to the formation by the great shipping companies of War Risk Associations for covering the risks run by our Mercantile Marine as neutrals: risks illustrated by the loss of the "Knight Commander" and other ships in the Russo-Japanese war. As Mr. Fayle so clearly shows in his most interesting book,<sup>1</sup> we have to thank these War Risk Associations for providing the machinery which the Committee of Imperial Defence made use of in framing the State Insurance Scheme brought into force on the outbreak of war. But for this a general hold-up of shipping would have been inevitable and the consequences of a general hold-up hardly bear thinking about.

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<sup>1</sup> "The War and the Shipping Industry"—by C. Ernest Fayle.

Mr. Fayle says : " Despite the success of the Insurance Scheme, the immediate effect of the declaration of war at midnight, 4th-5th August, was to bring practically the whole business of shipping, for the time being, to a standstill. . . . Every port at home and abroad was thronged with ships whose sailings were suspended. Thanks to the readiness of the Navy and the security provided by the State Insurance Scheme, the hesitation arising from fear of enemy action was quickly overcome."

By this Insurance Scheme the State was relieved of the whole task of administration by the skilled and experienced managing committees of the war risk associations and the patriotism displayed by the leading men in the shipping world has not always been realised in this country.

In such a vast upheaval a big rise in the cost of living was inevitable and, in ignorance, public opinion attributed this rise entirely to high shipping freights, whereas these high freights were a comparatively small factor ; they were rather a symptom of other diseases. As early as January, 1915, a conference of the principal shipowners pointed out that the main cause of high freights was congestion at the ports ; serious loss of shipping had not yet been caused by the enemy. They recommended cutting down naval and military demands on port facilities, pooling of railway trucks, penal rents on goods not promptly removed from the quays, and an enquiry into the labour supply. However, no action was taken on these lines, and as the Admiralty had absolute priority over the shipbuilding resources of the country mercantile shipbuilding was practically suspended. With the advent of the German submarine campaign it was not long before shortage of tonnage really did become a serious factor in the rise of freights. To quote Mr. Fayle : " During the second and third quarters of 1915 British shipping to a total of 580,000 tons was destroyed by the enemy. . . . At the same time, the delays from port congestion grew more and more serious. . . . At almost every port there was an acute shortage of labour, carts and trucks ; the quays and transit sheds were choked with accumulated goods ; the process of discharge occupied 25 to 50 per cent. more than the normal time ; and ships were constantly kept waiting for days before they could obtain a berth."

Mr. Fayle describes in detail the steps by which the whole of the British Mercantile Marine was gradually brought under Government control, in order to meet the increasing demands for tonnage. The control of imports naturally followed the control of shipping, beginning with sugar and meat early in 1915, and corn later on in the year. The Government, naturally reluctant to introduce revolutionary changes, was slow to adopt the remedies proposed by the various boards and committees appointed to consider problems as they arose. The experts called in to advise frequently disagreed, as for example, the divergent views of the owners with regard to Government control of shipping at the end of 1916.

The intensified submarine campaign had by then made the situation so acute that one of the first acts of Mr. Lloyd George as Prime Minister was the appointment of Sir Joseph Maclay as Shipping Controller. To quote Mr. Fayle again: "It may fairly be said that Sir Joseph Maclay was successful in winning the confidence both of the shipowners and public. . . . Both shipbuilding and ship-purchase were placed under the authority of the Controller and a clear field was provided for his efforts by prohibiting the laying down of any new vessel or the purchase of any vessel from abroad on private account. . . . Meanwhile the Ministry of Shipping was being gradually built up."

At length, in March 1917, restriction of imports was decided upon, eighteen months after it had been proposed, though it is only fair to point out that the problem had by then become much simpler.

In spite of all efforts, however, the tonnage situation grew steadily worse. Shortage of labour and of steel were still the main obstacles to increased output, and it was in the hope of economising both that the Standard ship was introduced. By May 1917, matters had become so bad that the control of merchant shipbuilding was transferred to the Admiralty. Mr. Fayle says: "Had labour and steel been available for merchant ships in 1915 or even 1916, the crisis in 1917 would have been much less acute. Had they been available in 1917 even, the crisis would have caused less anxiety, but now thousands of skilled workmen were in the Army and could not be got back. The War Office, the Ministry of Munitions and the Allies had claims on the output of steel that they could not or would not reduce and matters were further complicated by labour unrest."

Eventually Lord Pirrie was appointed Controller General of Merchant Shipbuilding, with a seat on the Board of Admiralty. The effect was excellent, not only as regards shipbuilding, but many much needed reforms were effected in the conditions of service of the merchant seaman. Long-standing grievances were enquired into and removed, and a spirit of goodwill established between owners and seamen, which has stood us in good stead in the difficult post-war times.

Early in 1917, the shipowners' associations urgently represented the heavy losses of shipping and pointed out that, failing more efficient protection, the war must soon be brought to an end by lack of tonnage. This resulted in the introduction of the convoy system which, in spite of its inherent difficulties, proved eminently successful, thanks to the loyal co-operation of all concerned. The convoy system saw us through the war.

Between June 1914 and June 1919, our share of the world's tonnage dropped from 44 per cent. to 36 per cent., but more serious still, perhaps, was the dislocation caused in every department of the shipping industry. Mr. Fayle tells us that the tramp trade was practically wiped out, while the liner companies, though their branch and agency organizations



had been preserved, suffered heavily in goodwill and business connections. Both liner and tramp companies were left with old and worn out ships to face intensified foreign competition, especially from the newly built fleets of the United States and Japan, while one of our principal assets, the long-distance coal export trade, had been temporarily destroyed.

Small wonder that the road to recovery has been a long and weary one for the shipping industry.

Mr. Fayle's recent lecture at the Royal United Service Institution on the supply of raw materials in time of war is a corollary to his book. In it he points out how the supply of labour and raw material for our staple industries was unduly reduced in order to concentrate our resources on supplying the fighting Services. We pulled through as we had behind us the vast resources of the United States in food, munitions and credits. In another war we may not have this advantage. The supplies we require from neutral sources will probably have to be paid for as we go, and to do this the supply of labour and materials for our great industries must be maintained.

But he shows we are not peculiar in this. All civilised countries are dependent to a great extent on imports for carrying on their industries, not excluding even the United States, and these supplies have to come largely from overseas. Raw materials for the great industries are necessarily bulky, and, even where alternative rail transport exists, it compares unfavourably with sea transport for these commodities. Moreover, the route of supplies cannot be readily altered however pressing the need. Each port is suited for dealing with its own special trade and is unsuitable for dealing with that of an entirely different kind. Railway systems are designed to deal with their normal volume of traffic and are not often capable of very great expansion. Even shipping is getting specialised to a constantly increasing extent. Hence it follows that no highly developed country can long survive the stoppage or serious diversion of its seaborne commerce, and in this respect we differ from other countries only in the number and extent of our trade routes.

We have learnt by experience that modern war means bringing into requisition the whole resources of the country—man power (including woman power), economic, financial, industrial, everything. Our resources, however big, will be strained to the uttermost and we must, in peace, think out how to make the best possible use of them in war should that calamity again befall us.

The story of the shipping industry differs from that of other industries in the war, chiefly in that the Mercantile Marine was actually in the thick of the fighting all the time. We started under the impression that it was to be a non-combatant and gave it no guidance as to how to evade the enemy. We were soon forced to arm it for its own defence, and eventually it had to carry on its business in highly organized fleets under naval escort.

The knowledge that the Navy and the Merchant Service gained of one another under the stern conditions of war was of inestimable value to both of them and it will be deplorable if they are allowed to lose touch again, as they are only too likely to do in time of peace. The tendency to work in watertight compartments is one of our worst troubles.

It is painfully evident that most Departments of State had, before the war, left the study of Empire Defence almost entirely to the fighting Services.

Much can be done in the way of defence without spending a penny more on armaments. If defence problems had been studied as they should have been before the war, thousands of lives and millions of pounds would have been saved. Breadth of outlook and readiness to co-operate are essential to carry through any big undertaking, especially that of winning a war. In studying the effect of war on economic questions we must not again forget that we may be a belligerent.

Mr. Fayle's book is a record of bitter lessons learnt in the hard school of adversity. It is for us to study those lessons and profit by them in readiness for future emergencies.

## AIR CO-OPERATION WITH THE ARMY

By WING-COMMANDER E. L. GOSSAGE, D.S.O., M.C.

On Wednesday, 23rd February, 1927, at 3 p.m.

MAJOR-GENERAL H. H. KNOX, C.B., D.S.O., Director of Military Training, in the Chair.

THE CHAIRMAN: I will ask Wing-Commander Gossage to deliver his lecture. He is particularly well-qualified to speak on "Air Co-operation with the Army," since he started his career as an artillery officer. He has since been Commandant of the School of Army Co-operation at Salisbury, and is now in charge of air matters at the Staff College.

### LECTURE.

#### (I) INTRODUCTORY.

AIR co-operation with the Army was evolved during the course of the Great War and the principles then elaborated were those which the shackles of trench warfare forced upon us. Since then we have been training for mobile warfare and have discovered that in some cases the principles found applicable to co-operation in trench warfare no longer hold good as regards conditions of mobile warfare. Consequently I will endeavour to limit my remarks to air co-operation with the Army as it presents itself to us to-day, that is, in mobile warfare.

Whenever we look at a picture, which in its composition embraces a number of different objects, our mind generally takes in the picture as a whole. We do not commence by carrying out a detailed examination of all the various objects which go to make up the picture. We see the general picture first and then come down to a more particular study of its several features afterwards. It is in this manner that I think we should approach our present subject, and, as an introduction thereto I propose to dwell for a moment upon the general picture of the work of the Air Force as a whole, and then to examine how air co-operation with the Army fits in with it.

There seem to me to be four distinct ways in which the Air Force can play its part as one of the three fighting services of the Empire.

- Firstly : In the air war, fought independently of either the Navy or the Army, by participation in the defence of this country against air-borne attack and by striking at the heart of an enemy nation ;
- Secondly : As part of our imperial police force, by representing the power behind the forces of the local administration of a country as the Air Force is doing in Iraq ;
- Thirdly : In the protection of commerce and the attack on enemy harbours and inland towns where the Air Force will play its part in co-operation with, rather than in subordination to, the other two Services ;
- Fourthly : In naval operations by sea and in military operations by land, where the Air Force will be an ancillary service, and where it will be placed in strict subordination to the admiral or general in command.

From this summary it will be seen that work ancillary to the Navy or Army is but a small portion of the several tasks for which the Air Force exists ; and, unless we keep the existence of these several tasks always in mind, we may find ourselves allowing one large tree to obscure the rest of the wood. For instance, if we have not given sufficient thought to the existence of the " air war," but have contented ourselves with providing first class naval and military air arms, we may run the risk, at the outset of a war, of never getting our naval or military forces into action at all through hostile air domination of our harbours, coasts, industrial centres and seat of government. Assuming—as I do with confidence—that such a contingency is unlikely in our own case, and that we shall be able to send an expeditionary force overseas at will, I propose to confine myself to a description of the work of an Air Force contingent with an expeditionary force.

I think we may begin by accepting as an axiom that a Royal Air Force contingent will always accompany an army in the field in future. It is difficult to see conditions so abnormal that the assistance of aircraft will be either impossible or superfluous. Fighting in very large towns might render normal air co-operation somewhat difficult, but military operations would be abnormal and difficult also. Aircraft in the past have been employed to assist the army in Western European countries, amidst the snows and forests of North Russia, in the sweltering heat of Mesopotamia and the Sudan, and amongst the mountains of the N.W. Frontier of India. The more difficult the forces of nature with which the Army has to contend, the greater seems to be the assistance to be derived from the air. Consequently, I think I am safe in saying that wherever and whenever an army takes its place in the field in the future an Air Force contingent will be found in its company.

I now propose to deal with air co-operation with the Army in a European country, for air co-operation in a small war, though the principles are the same is in practice rather different.

## (2) DUTIES OF AIRCRAFT.

It is necessary to consider what tasks such an Air Force contingent will be required to carry out so as to assist the Army. In order to do this, I think it advisable to look back so as to establish the conditions that gave rise to air co-operation with troops on the ground and to see how this came to be developed.

In warfare throughout the ages, the existence of "the fog of war" has constantly stimulated in the minds of the great commanders the desire to discover some means of dispelling the obscurity which cloaks the doings of the enemy. It has been expressed as the desire to see "the other side of the hill." It was this desire which prompted the French Revolutionary Army to fly a balloon at the battle of Fleurus in 1794, the earliest recorded occasion on which aircraft were used in war. Since that date all armies have contemplated the possible inclusion of aircraft in their resources, until the exploits of Wilbur and Orville Wright emerged from the experimental stage and brought a practical solution to the problem. The balloon, first of all, enabled a commander to see deeper than ever before into the enemy's dispositions, but it was the aeroplane which eliminated the "hill" altogether and laid bare the enemy's front, reserve and rear organizations to a depth measurable only by the distance to which the aeroplane can fly. Reconnaissance, therefore, or that information on which a commander will base his plan of operations, has rightly come to be regarded as the most important duty which an Air Force can perform for an army.

The aeroplane, again, arrived at a most opportune moment for the artillery arm. The ranging power of guns had outgrown facilities for ground observation, whilst methods of indirect fire rendered it possible for hostile artillery to conceal itself wholly from ground observers and partially from balloons. The introduction of aeroplane observation about the middle of 1912 opened up a new field of evolution for artillery, since full use could be made of extreme ranges, whilst targets previously concealed from ground observation could be engaged with observed fire. Great progress was made during the war and on occasions some squadrons observed, in the course of one day, as many as between 2,000 and 3,000 rounds. For the greater volume of their work heavy and medium artillery came to rely almost entirely upon the air to give them "eyes in the air" in place of the "eyes on the ground."

Little or no thought had been directed before the war to the matter of bombing from the air, but our memory is not so short that we have forgotten the potent weapon which air bombardment became during the war. In fact, so potent did it become, and is now becoming, that it can no longer be considered an ancillary weapon of destruction but rather as the primary agent in the wielding of air power.

Lastly, fighting in the air grew as the war progressed, not, as many people supposed, as an end in itself but in order to obtain and maintain



such a degree of superiority over the enemy air force that the more "domestic" forms of co-operation, namely, reconnaissance and artillery observation, could be carried on with a minimum of interference from enemy aircraft.

I will now summarise the duties which an Air Force contingent may be called upon to carry out in co-operation with an army, as follows:—

- (a) *Close co-operation* with all arms of the army, which includes close reconnaissance, artillery observation and tactical photography;
  - (b) *Medium and long distance reconnaissance*;
  - (c) *Air bombardment* of the enemy's troops and ground organizations by day and by night;
  - (d) *Communication flights* for carrying staff officers between widely separated portions of an army;
  - (e) *Supply by air*;
  - (f) *Transport of troops by air*;
  - (g) *Co-operation by kite balloons*;
- and last, but by no means least,
- (h) *Air fighting* through which, as I said previously, in combination with the action of bombing aircraft, superiority over the enemy air force is gained and maintained.

Now, from the point of view of simplicity in training and in supply of material, it would be highly advantageous if one "general purpose" type of aeroplane could be made available to undertake all these duties. At the outbreak of the War this was almost possible, as reconnaissance was the "end all and be all" of the Royal Flying Corps. But, as the war progressed and different duties developed, special types of aeroplanes were evolved to tackle each. Specialization has continued and the cleavage between the different types has become so pronounced that it is now possible to divide our aircraft according to their functions into four main categories:—

- (a) *Army Co-operation*: at present the Bristol Fighter, a two-seater of  $2\frac{3}{4}$  hours' duration and a speed of about 100 m.p.h. now in course of replacement by the Armstrong Atlas.
- (b) *Day Bombing and Long Distance Reconnaissance*: at present the D.H.9A. and the Fairey Fawn, both two-seaters with a speed of about 112 m.p.h. and a duration of  $4\frac{1}{2}$  hours. They are able to carry about 500 lbs. weight of bombs.

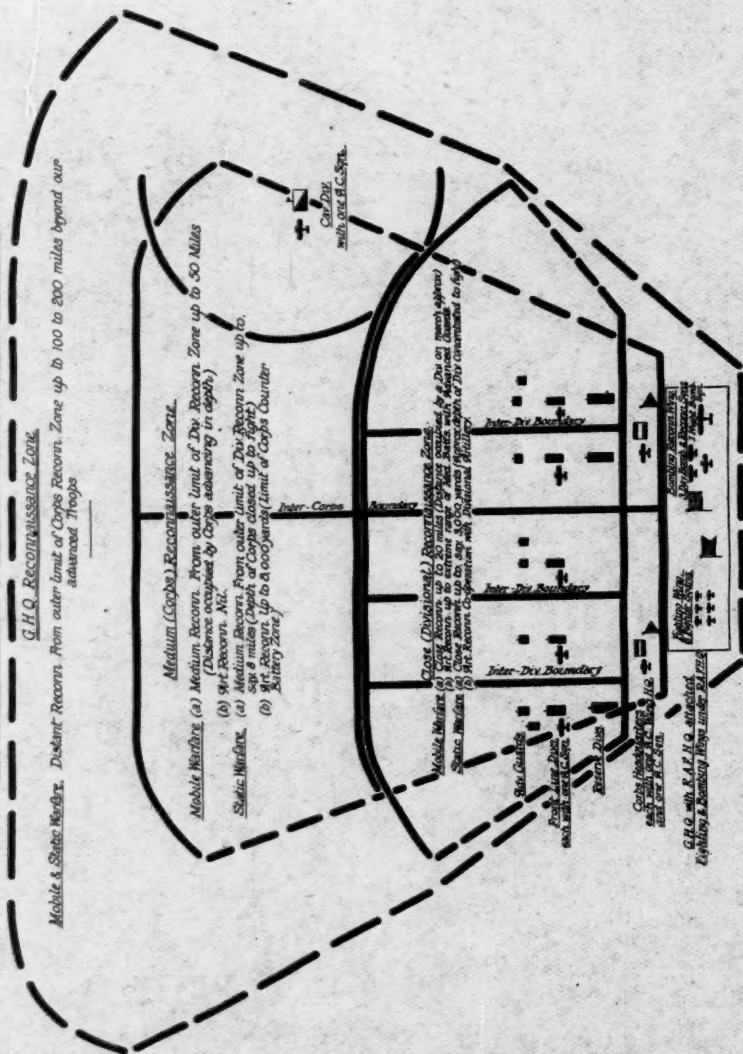
A new aeroplane with a higher performance than either the D.H.9A. or the Fawn, called the Fairey Fox, is now well on its way to being the standard day bombing machine.

- (c) *Night Bombing*: at present the Vickers Virginia, a large two-engined aeroplane which is able to carry 2,200 lbs. of



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bombs to a place 360 miles away or 1,000 lbs. of bombs to a place 500 miles away, the difference being caused by the greater quantity of petrol which has to be carried in order to cover the longer distance. Troop-carrying aircraft are equivalent to these.

(d) *Fighting*: at present the Siskin and the Grebe, which are high-performance single-seater aeroplanes capable of speeds of about 130 m.p.h., but only able to stay in the air for some two hours or so.

### (3) DISTRIBUTION OF AIRCRAFT.

I now wish to consider briefly the command of the Air Force contingent and its distribution amongst the formations of an army.

To illustrate my meaning more clearly I will place before you this diagram which shows it graphically.

The army, you will see, consists of :—

- General Headquarters ;
- Two Corps Headquarters ;
- One Cavalry Division ;
- Eight Divisions.

It is generally upon the size of the army that the size of the Air Force contingent depends, but this, though generally the case, is not always strictly true as I shall point out shortly.

Taking General Headquarters first : in Field Service Regulations, Vol. I, Sec. 76, which embodies the agreed views of the War Office and the Air Ministry, it is made clear that an Air Force contingent allotted to a military commander-in-chief will work directly under his orders. By the adoption of this formula the Air Force contingent, as far as operations are concerned, becomes part and parcel of the Army and identifies itself with the Army absolutely in the pursuit of the military object, namely "the destruction of the enemy's main forces on the battlefield." The air officer commanding the Air Force contingent, who is responsible for the technical efficiency of all air units and formations under his command, becomes the technical adviser to the military commander-in-chief and the army staff on all matters concerning the Air Force. He will be in close touch with the General Staff at General Headquarters and will receive orders for operations through that branch. The responsibility for the means employed to carry out the tasks allotted to him will, however, rest entirely upon the air officer commanding. By Field Service Regulations he is enjoined to attach his headquarters to those of the commander-in-chief and there they will be found.

Next come the army co-operation squadrons. These squadrons comprise the aircraft specially designed to carry out close co-operation with all arms of the Army and are generally provided in the proportion of one squadron to each division. From this remark, however, it must

not be understood that each division will always have an army co-operation squadron at its disposal; that is far from being the case as the headquarters of the corps have their requirements as well as the divisions and have no aircraft specially apportioned to them to carry out these requirements. Thus, the army co-operation squadrons, though allotted in the proportion of one to each division, have actually to meet the needs of the corps as well as those of the divisions.

The original distribution of army co-operation squadrons will be made by General Headquarters and subsequent allotments will be made by the corps commanders according to the situation prevailing at the moment. In the diagram you will see an army co-operation squadron placed under the orders of each of the leading divisions and the cavalry division and one with each corps. The reserve divisions, you will see, have no aircraft allotted to them because, for the moment, they will have no need of them. And to co-ordinate the activities of these army co-operation squadrons on the front of each corps you will see an army co-operation wing headquarters, the wing-commanders being the air advisers to the corps commanders in the same way as the air officer commanding is to the commander-in-chief.

Into the provision of the six fighting squadrons and the three day and one night bombing squadrons certain factors enter, which are additional to that of the size of the army. Fighting squadrons are only really necessary if the enemy has an air force, for then our fighting aircraft must be provided on a scale at least equal to, and if possible superior to, that of the enemy and our fighters must, if possible, be of superior type. We shall have to find out these details about the air forces of our potential enemies beforehand. Further, we must be satisfied that, if we have provided a number of fighting and bombing aircraft to accompany an army overseas, we are not weakening our position nearer home. Unless our position in the air at home is secure, our army abroad may sooner or later be placed in a serious situation, through their inability to receive support from home. This is the factor of the "air war" that we have constantly to keep in mind.

We have to take into account also the nature of the campaign which we are about to undertake. We must know the characteristics of the country in which we are going to operate, whether, for instance, we are going to fight in an European, an Arctic, or a Tropical climate. Climate and physical characteristics influence the choice of aircraft; a type which may be suitable for one country may be quite unsuitable for another.

With these factors taken into consideration, the appropriate allotment is arrived at, and you see on the diagram the fighting and bombing squadrons thus provided grouped under Air Force Headquarters. The reason for this grouping is that the work of these types of squadrons influences the security and operations of the force as a whole.



There are not enough fighters, for instance, to allot some to each subordinate formation, and past experience has shown that fighters are most economically and successfully operated when kept concentrated and under some central direction.

The bombing aircraft, also, which combine day and night reconnaissance with their bombing tasks, are capable of penetrating to a much greater distance into the enemy's territory than are the army co-operation aeroplanes. Thus, if the bombers were to be allotted to subordinate formations with their comparatively circumscribed points of view, the benefit of their long range would be wasted. Therefore, we find the fighting and bombing squadrons grouped under Air Force Headquarters in close touch with General Headquarters, that being the headquarters most interested in their doings.

The supply arrangements, for all these squadrons, other than for technical stores such as aircraft, engines, aviation petrol and lubricants, are the responsibility of the Army who undertake the movement of all stores overseas and who carry out the storage and distribution of non-technical stores in the theatre of operations. Technical stores are distributed by the R.A.F. staff working in conjunction with the staff of the military commander-in-chief.

#### (4) RECONNAISSANCE.

I now wish to turn for a moment to a consideration of the tasks which the aircraft have to carry out and to an examination of these tasks in slightly greater detail.

In taking air reconnaissance first I will not enlarge upon its undoubted advantages over ground reconnaissance beyond mentioning the rapidity with which it is carried out, the economy in personnel involved, the large areas which can be reconnoitred and the speed with which reports can be delivered to those who require them. I think I may say that the only serious limitation to reconnaissance now appears to be fog—the sole condition of weather which definitely keeps aircraft on the ground.

I will now turn to the different forms of air reconnaissance which military commanders will require in the field and how such reconnaissance will be carried out.

Each military commander will obviously require as much information about the enemy, which affects his own immediate plans, as he can get. The commander-in-chief, to commence with, will want to ascertain the enemy's strategical intentions, the corps commanders will desire to know what the enemy is doing in the more forward areas of his rear organizations and the divisions will be interested in the tactical situation on their own immediate fronts. Each military commander will be concerning himself with the actions of the hostile formation which corresponds to his own and this gives the clue to the allotment of areas for reconnaissance. The G.H.Q. reconnaissance area is naturally the deepest,

the divisional areas are the closest and the corps (or medium) reconnaissance areas are sandwiched between these two. This explains, I hope, the areas for reconnaissance which I have shown in the diagram, but I want to make it quite clear that arbitrary measurements for these areas cannot be laid down for, say, mobile and stationary warfare. The depths of the areas fluctuate from day to day and are entirely dependent upon the situation prevailing at the moment.

The types of aircraft which carry out reconnaissance over the areas which I have shown are those that I have illustrated as allotted to the several headquarters of the formations. The long distance squadrons carry out G.H.Q. reconnaissance, and the army co-operation squadrons perform medium reconnaissance for the corps and close reconnaissance for the divisions.

In carrying out distant reconnaissance, aircraft are generally employed singly and fly at a great height—14,000 to 15,000 feet or so—the idea being that a single aeroplane arriving unexpectedly at a great height will achieve surprise, do its work and be able to slip away home before the enemy can get an aeroplane up to reach it. From this height, obviously, movements of individuals and of small bodies of troops will be invisible, nor is such information required from this form of reconnaissance. Information is wanted about important enemy rail movements and strategical concentrations, and this information will be obtained by means of photographs. The photographs, in fact, will practically eliminate the observer's visual report, and a series taken periodically of the same area will reveal changes in the size of concentration camps and fluctuations in the volume of rail, and possibly of road, traffic. From these and other factors deductions will be made by the Intelligence Branch of the General Staff as to the enemy's strategical intentions.

In passing, I wish to stress this matter of making deductions. It is only the Intelligence Branch of the General Staff who have continuous access to the mass of information which is available in the field. It would obviously be impossible for observers in the air to memorise it all or to see how the objects which they were observing fitted in with other scraps of information which had already been obtained—possibly from other sources. Therefore, the policy of the Royal Air Force is to teach pilots to report only what they actually see and to leave the deductions to be made by the General Staff.

The information which the corps requires is more detailed than that which G.H.Q. want and it will, in consequence, have to be obtained from a lower altitude. It will embrace the road movements of large bodies of enemy troops, forward rail movements and the construction of aerodromes and supply dumps. As the acquisition of this information will involve flying at a relatively low altitude, the chances of obtaining surprise are thereby lessened and aircraft carrying out this form of medium distance reconnaissance will have on occasions to operate in

formation. The strength of these formations will depend entirely upon the degree of resistance which the enemy is deemed likely to offer. If he appears likely to contest the obtaining of information, the formations must be strong and be prepared to fight for the required information. If, on the other hand, the enemy is quiescent in the air, one aeroplane may well suffice.

The military commander states his requirements and the degree of importance which he attaches to the acquisition of the information which he wants—that is, the casualties in aircraft that he is prepared to risk to get it. The Air Force commander then decides upon the manner in which he will perform the task—whether, for instance, he will employ a formation of aircraft or whether one aeroplane will be enough.

Close reconnaissance for the divisions will be tactical in nature and can be summarised as the obtaining of information about the enemy on the immediate fronts of the divisions, and the ascertaining of the positions reached by our most advanced troops whenever this information is required. As the information required will be detailed in character it will generally have to be gained by aircraft flying at quite low altitudes—in some cases, at altitudes so low that friend can be distinguished from foe owing to the colour of the uniform which they are wearing. Aircraft carrying out close reconnaissance may on occasions be asked to say whether certain positions are occupied or not. This they can sometimes do, but not always, as well concealed parties of the enemy have it in their power to deceive the air observer. Unless they move about or open fire there is a chance that they may not reveal their positions, and even if the air observer does locate them, it cannot always be definitely said whether they are friend or foe. The air, it must be remembered, cannot obtain identifications and negative information will always have to be treated with reserve. Therefore, for tactical reconnaissance aircraft cannot altogether take the place of troops on the ground. Confirmation of their reports in this respect will sometimes be needed.

All close reconnaissance aircraft carry radio-telephonic apparatus, which enables the observer to make reports continuously to headquarters on the ground and also enables these headquarters to speak, when necessary, to the aeroplane. Radio-telephony, however, in spite of the excellence of technique displayed by such concerns as the B.B.C., is still in its embryonic form as regards its use for military and air purposes. Its range is short; its operation is slow and not always reliable; hence it is looked upon with a certain amount of mistrust. In spite of this, it has undoubtedly come to stay and I feel sure that we shall see great improvements in the near future.

Close reconnaissance aircraft also drop written messages in weighted message bags and can actually pick up written messages from the ground by means of a grapnel arrangement fitted underneath the aeroplane. This latter procedure, of course, pre-supposes the existence of a suitably

open site for the erection of the gear on the ground and has the disadvantages that aircraft, in picking up messages, have to leave the front temporarily, and may also, by descending, give away the position of the Headquarters from which they are collecting the messages.

On occasions it may be found most profitable for commanders and staff officers to be taken into the air before some operation in order that they may be enabled to have a bird's-eye view of the country over which they are going to fight. The value of such flights has often been inestimable, but it must not be forgotten that the view from the air is very different from the view on the ground and unless commanders and staff officers have had a fair amount of previous flying experience the benefit which they will gain from occasional air reconnaissance will be considerably discounted. Further, the opinion is sometimes advanced that a staff officer with his superior military training would make a better air observer than the average Air Force pilot. Provided that the staff officer has had as much air experience as the average Air Force pilot and has been able to keep himself continuously in practice there is no doubt that he probably would be a better observer. But, is this observation from the air the right job for the staff officer? The air is only one of the many sources of information at the disposal of a military commander and the information which the air supplies is only part of the general intelligence picture. Experience has also shown that average Air Force pilots possessing constant practice in co-operation with the army rarely miss much of what there is to be seen and will usually produce reliable reports if the staff have asked for the information that they require in a clear and definite manner. It is in this giving of instructions for reconnaissance that training of the staff officer, to my mind, really counts. Therefore, I submit, that the place for the staff officer is, not in the air, but on the ground where he is in touch with the operations which, of course, are taking place on the ground, and where he is in a position to be able to receive information from all sources, sift it, collate it, and then to draw reasoned inferences from it with the greatest possible number of facts available. Considerable value will often be gained by staff officers and commanders carrying out flights to have a look at the ground before operations, but for normal reconnaissance I am quite certain that average Air Force pilots will produce the better results.

#### (5) ARTILLERY CO-OPERATION.

Co-operation with artillery is a highly technical and detailed subject and I do not consider that much benefit could be gained by entering into a description of the procedure at present in force and I will limit my remarks to one or two general points. Firstly, all army co-operation aircraft can be equipped with wireless telegraphy to enable them to communicate with the artillery. Lamps, light signals and aeroplanes executing different turns in the air, were successively tried before and during the war and were scrapped in favour of wireless, which proved the only satisfactory solution.



With the arrival of radio-telephony some people thought that it would be an excellent idea if it could be devoted to the needs of air co-operation with the artillery rather than kept exclusively for close reconnaissance and inter-communication between the aeroplanes of fighting squadrons. At first sight the proposition of two-way speech between air and guns appears attractive, but it possesses certain very definite disadvantages. Firstly, the inherent difficulty of transmitted speech over a telephone which is none too efficient; Secondly, it always takes much longer to say a thing by telephone than it does to transmit it by an abbreviated code in morse. Thirdly, the number of radio-telephony sets which can be used in close proximity to one another is strictly limited on account of the consequent jamming. On the front of a division, for instance, a number adequate to meet the average needs of the artillery would at present be an impossibility. For these reasons, therefore, telegraphy must, for the moment, be considered superior to radio-telephony.

Artillery co-operation aeroplanes carry single-way transmission only—that is, with the exception of those working with the long range artillery, 9.2 inch guns and over, which have two-way wireless. These latter, by reason of the distances involved, require to know when the gun is fired and can only be informed of this by wireless from the ground. To receive signals from the air the artillery is equipped with small portable receiving stations manned by Air Force personnel attached to the artillery, the principle being that signals made by the Air Force from the air will be received by the Air Force on the ground, this being our normal practice during every-day training.

As to the procedure itself, all that need be said is that the Air Force makes no claim whatever to control the artillery fire. The Air Force exists, as far as the artillery is concerned, firstly, to observe fire—that is, to provide the artillery with "eyes in the air"—and, secondly, to indicate to the artillery targets which are invisible to ground observation. It is comparatively simple to teach a pilot in quite a short time to locate the fall of a shell with regard to the target and to communicate that location to the guns. It is also easy to teach a pilot to "pin-point" a target with a reasonable degree of accuracy. Given these two conditions, the artillery are, to my mind, getting all that they require.

It is, however, the opinion of a number of officers that air co-operation with the artillery can never be really satisfactory until it is performed by artillery officer observers in the air.

The opinion is further expressed that these artillery officers should exercise technical control over the fire of the guns from the air, in addition to observing for them. If then it is contemplated that they should *control* the fire of the guns as well as observe for them, certain great difficulties immediately arise: firstly, the present lack of satisfactory two-way communication which is regarded as essential for the efficient



control of artillery fire; secondly, the absence of the ground observer's usual assistants; and, thirdly, the fact that no suitable three-seater aeroplane exists.

The British army co-operation aeroplane is a two-seater and in the British Air Force we train our pilots to do all the observation work. We argue that the pilot, because he is in control of the aeroplane, can always put himself more easily into a position to observe the target than he can place his passenger, for the planes of the machine have a nasty habit of getting into the passenger's line of view just at the critical moment when he wishes to observe most closely and continuously. As the passenger is not in control of the aeroplane he can only indicate to the pilot the position in which he wishes to be placed and the pilot does his best to satisfy him. Obviously, any form of dual control is fundamentally unsound. Incidentally, of course, the pilot is not able to protect his passenger, except indirectly, through manoeuvre and through offensive action against enemy aircraft. Thus the passenger has become an air-gunner responsible for the protection of his pilot from attack from the rear. He relieves the pilot from anxiety on this account and thereby enables him to concentrate his attention more closely upon his observation.

If, then, an artillery officer is to be sent aloft to observe and to control fire, a three-seater aeroplane, suitable to the peculiar needs of army co-operation work, would have to be provided to carry pilot, observer and air gunner. Now, a three-seater aeroplane by its very nature must be a larger machine than a two-seater, and if it is a larger machine, will it fulfil the conditions which an army co-operation aeroplane must fulfil, namely, good performance, good manoeuvrability near the ground, ease of handling when on the ground and the ability to operate from confined spaces? Up to the present no three-seater has been found which possesses these qualifications and, even if it were to be found, the old problem would still remain as to the pilot invariably being able to give his passenger a view of the target which would not be obscured at the critical moment. I am inclined to think, therefore, that we should stick to our present policy of "observation" from the air and not endeavour to combine "control" with "observation." And, if we accept this policy, I submit that the Air Force is in a position to provide all that the artillery require.

#### (6) AIR ATTACK ON ENEMY GROUND FORCES.

Bombing aircraft as part of an Air Force contingent can assist an army in two main ways: directly, through air bombardment of the strictly military forces and rear organizations of the enemy, and, indirectly, as the complement of the fighting squadrons in their struggle to obtain a superiority over the enemy air force.

Here, then, are two separate tasks and these will necessarily have to be interdependent since there will generally be one force of bombing

aircraft only. Though both tasks can be carried out in succession, the ideal to be aimed at, to my mind, will be to select objectives in the enemy's territory which will, if attacked, damage both the enemy army and air force at one and the same time. This, I consider, can be achieved if bombing aircraft are directed against what may be termed "soft spots" in the enemy's rear organizations, such as important railway junctions, vital centres of supply and possibly aerodromes; all of them points which the enemy will be compelled to defend. Attacks of this nature will damage the enemy army through the delays, dislocation and casualties which will be caused. They will also damage the enemy air force morally, in that his fighting aircraft will be thrown on to the defensive as I shall shortly describe.

It will thus be seen that the selection of objectives to produce this dual result is a complicated matter and one which will call for the most earnest study and consultation on the part of both the military and Air Force commanders. Intelligence will generally be meagre as to what spots the enemy regards the most delicate for the moment, but if the bombing attacks are planned in close relation to operations contemplated or actually taking place on the ground, a forecast as to these "soft spots" will generally become clearer.

Apart from the more distant objectives which I have indicated there are others closer to the front which, if attacked, might produce results quite as far-reaching. For instance, before battle, the enemy troops may be deprived of their rest by spasmodic bombing attacks and their morale undermined. The enemy's "brain," as represented by his headquarters, may be disorganized at the commencement of a battle through bombing attacks. During a battle, the arrival of the enemy's reserves may be prevented or seriously delayed through attacks on trains in movement on the enemy's lines of communication. After a successful battle aircraft can be despatched to pursue the enemy and by means of bombing attacks, coupled with machine-gun fire, they may turn an orderly retreat into a disorderly rout. Further, if a battle has gone against a commander and he has been forced to retire, aircraft once again can assist him in staying the pursuit of the enemy. The bombing squadrons will delay the enemy's advance, indirectly perhaps, by attacking his supply depots and disorganizing his means of distribution of supplies and ammunition while the fighting squadrons will attack the advancing enemy columns with small bombs and machine-gun fire from low altitudes.

This latter form of attack is best carried out by single-seater fighting aircraft which rely upon their speed, their good power of manoeuvre and small size to achieve surprise and so cause disorganization amongst the enemy. The damage which they do is mostly moral, although on occasions the effect produced has been out of all proportion to the casualties actually inflicted. Once surprise has grown improbable and the enemy is on the alert, low-flying attack becomes expensive in flying

personnel and aircraft. Further, every single-seater fighter employed on low-flying attacks means one fighter less to deal with the enemy air force in the air. Thus, it may be taken as a general principle that the more complete the air superiority obtained by ourselves, the more frequent will be the occasions when these low-flying attacks can be made. Where this superiority is still in doubt, fighting aeroplanes will be better employed in securing it.

#### (7) FIGHTING IN THE AIR.

This mention of fighting aircraft brings me to the matter of fighting in the air. Generally speaking the most important contribution which the Air Force makes to the attainment of the military object is the direct co-operation which they carry out with the army, that is reconnaissance, artillery observation, photography and air bombardment. Consequently, the security of the aircraft carrying out these duties against interference by the enemy air force and the security of our own troops and rear organizations from enemy air attack or reconnaissance must be the principal aim of the Air Force commander. And in this respect nothing less than a continuous domination of the enemy air force can really achieve success.

To enable the Air Force commander to carry out his task, he has at his disposal fighting and bombing aircraft—the bombing aircraft being the same as, and not additional to, those required for the air bombardment of strictly military objectives.

Fighting aircraft are essentially weapons of offence and, except at night when they have to patrol over lighted areas, they must be employed offensively. That is, they must seek out the enemy air force in the air and destroy it, and the further into the enemy's territory that they can carry the offensive, the more completely will they dominate the enemy air force. Fighting aircraft of themselves, however, will not be sufficient to assure the degree of air superiority which is required, the reason being that fighting aircraft alone have no means of bringing the enemy to battle. They can fly about over the enemy's territory and do very little harm, but if the enemy fighters do not want to engage them our fighting aircraft cannot compel them to do so. It is in this respect then, that the bombers can become the complement of the fighters; they can provide a form of provocation which the enemy cannot afford to ignore. By aerial bombardment of "soft spots" in the enemy's rear organizations, points which it is essential for him to defend, such as his aerodromes, depots, lines of communication and possibly factories or sources of supply, the bombing aircraft can compel the enemy to accept the challenge. The offensive action of our bombing aircraft thus places the initiative in our hands and throws the enemy on to the defensive, as the enemy air force will be compelled to take the air in defence of his vulnerable points, possibly when unwilling to do so, and consequently at a disadvantage. The fighters then, by attacking the

enemy wherever met and gaining a moral ascendancy in the air fighting, will establish that measure of superiority in the air which is essential to the satisfactory performance of tactical air co-operation in land fighting. This maintenance of the offensive in the air holds good whether the army is advancing or standing on the defensive. A defensive attitude on the part of fighting aircraft is generally exceptional, and, should it be thought at any time that the enemy air force appears to be obtaining an ascendancy over our air force, the proper course to follow will be to make our own air offensive stronger still, and not to contemplate the adoption of an unsound attitude, namely, a defensive in the air.

(8) COMMUNICATION FLIGHTS, SUPPLY BY AIR, AND TROOP CARRYING.

Communication flights, supply by air, and troop carrying can be dealt with quite briefly. Communication flights between headquarters and widely separated portions of an army may sometimes prove of extreme importance to a military commander, the value of liaison visits by commanders or staff officers being very great. Thus, during the German advance through Belgium and Northern France in 1914, the chaos caused by delayed or mutilated wireless messages might well have been avoided had visits been paid by air by Staff Officers from German Headquarters at Coblenz to the Headquarters of the German 1st, 2nd and 3rd Armies. Though essential at times, communication flights cannot be regarded by commanders as normal, unless special aircraft are provided for the purpose. Otherwise the numbers available for the maintenance of the offensive against the enemy will be diminished. Similarly, with supply by air: it must only be regarded as an emergency measure for use when other means of transportation break down. Aircraft are not specially constructed for the purposes of supply by air, but on occasions they have to be used for it to save the situation. During the recent operations in Syria, the French garrison at Soueida in the Djebel Druze, consisting of 700 men, held out for about sixty days before they were relieved, being provisioned daily by four aeroplanes.

Troop carrying may on occasions be the only means by which small bodies of troops can be moved rapidly over considerable distances in countries where communications are bad or do not exist. Special troop carrying aircraft are required to make a move by air economical, and a fair amount of notice will generally be needed as well. And, of course, suitable landing facilities will have to exist at the terminal point. Several moves of this nature have been successfully carried out in Iraq, and, given a defeated and demoralised enemy, it is not impossible to see raids by aircraft carrying troops being made in the future against vital spots, such as bridges or defiles in rear of the retreating enemy troops. Raids of this nature would probably have an effect out of all proportion to the numbers of men and aircraft employed and might prove decisive through the "round-up" of a routed foe becoming possible.



## (9) TRAINING FOR WAR.

A word about the co-operative training of the Army and the Air Force to conclude. The object of all training is to prepare for war and our aim must be to make the association of the Army with the Air Force so constant in peace time that co-operation in war becomes a matter of second nature. Unless co-operative training in peace time aims at something of this nature, we cannot expect good co-operation in war. "Co-operation," says Field Service Regulations, "is dependent on knowledge and this can only be obtained by close study during peace. The full moral and material forces of an army can be brought into play only by the closest co-operation of its component parts and between the Army and the units of the Royal Air Force acting with it." What then, you will ask, is being done to bring about this close study which is regarded as of so much importance?

Starting with the Air Ministry. There is in the Air Ministry a branch which deals with air co-operation with the Army and in this branch there was, until recently, an officer of the General Staff, lent by the War Office, who assisted the Air Ministry in military questions. Then there are the army co-operation squadrons of the Air Force, four at Home, four in India, one in Egypt and one in Iraq. Lastly, there is an army co-operation group headquarters at Farnborough, which co-ordinates the work of all the army co-operation squadrons at Home. Except for the squadron in Iraq, which is somewhat differently situated to the remainder, all the army co-operation squadrons are allotted to the army for training and they receive their orders direct from the Army on matters of training and operations.

At Home two squadrons are allotted to the Aldershot Command, one to the Southern Command and one to the Eastern Command. In addition to actual participation in the training carried out in these commands, frequent interchanges of personnel take place, military officers being attached to the Air Force and Air Force officers being attached to army units. At Aldershot, in particular, where the facilities for interchange are exceptionally favourable on account of the close proximity of the Army and the Air Force, a system of affiliation is in vogue which associates flights with subordinate formations, such as brigades. The exchange of visits between the two thus becomes a personal affair and great value is obtained in consequence.

At the Air Force School of Army Co-operation at Salisbury, two courses of a month's duration are held each year for army officers, the object of these courses being to train the branch intelligence officers or the general staff who will be attached to army co-operation squadrons for air intelligence purposes in war. To this School at Salisbury and also to the Group Headquarters at Farnborough there are permanently attached officers of the General Staff who assist in the training of both Army and Air Force officers. Two Air Force officers, also, attend each course at the Staff College, Camberley, where there is now an Air Force



instructor as well, and each year two army officers become students at the Air Force Staff College at Andover.

This interchange of officers with its constant interchange of ideas, will, I consider, create a body of officers both in the Army and in the Air Force, who by experience possess intimate knowledge of one another's ways and work, and will therefore be trained to co-operate effectively. This growing "air sense," I consider, is already reflecting itself in the fact that no indoor tactical or strategical exercise is now considered complete unless it contains some air problem for solution. Also no outdoor training exercise, whether tactical or administrative, can now be regarded as giving the true picture if the air is left out. Thus, by degrees we shall be achieving what we have been aiming at, the commander subconsciously using his air force as an integral part of the resources placed at his disposal with which to defeat the enemy, the staff officer instinctively considering the potentialities and limitations of aircraft when thinking out plans or orders, and the regimental officer and soldier having a clear idea of how aircraft help them, and how they in turn can help the aircraft. So, when war comes and the Air Force takes its place beside the Army in the field, it may do so as a smoothly-running piece of machinery, the purpose and functions of which the Army will fully understand how to employ.

There was no discussion.

#### THE CHAIRMAN :

The quality of this lecture has left us little room for any further discussion. I regret that the Director of Military Operations is not in the Chair to-day, because I feel he might have added some remarks to the lecturer's statement of the wider functions of the Air Force. My own interests lead me to consider most fully both the training of the Army in aerial problems and such training as the Army is able to give the Air Force in order to participate in that very difficult task of co-operation between the two Services. Wing-Commander Gossage has named the steps we take that are designed to keep the two Services in touch with each other. Speaking from experience, both as a commander and as a staff officer in this country, I assure you that the touch which is kept between the army co-operation squadrons and our brigades, divisions and battalions, as well as the artillery, is really wonderful. The officers know each other personally and consequently the closest contact is possible between them. I think it would be difficult if not impossible, to improve upon that in any way. But we do fail, I am afraid, to some extent in our efforts to give that military training which it is our duty to give to the officers of the Air Force. It is not altogether our fault that we fail. The Royal Air Force officers require experience in observing the movements of troops. To give them that it is necessary to have the troops to move. Our establishments are low; our units are weak; our transport in peace is largely non-existent. When we have manœuvres, what the man in the air sees on the ground bears little resemblance to what he would see on the ground in time of war. I am afraid we also fail, although the lecturer did not say so, in giving artillery observers sufficient practice. Speaking from an army point of view, provided the technique of the work between the men in the air and the batteries is correct, that is all we want. This amount of training we do give our batteries,

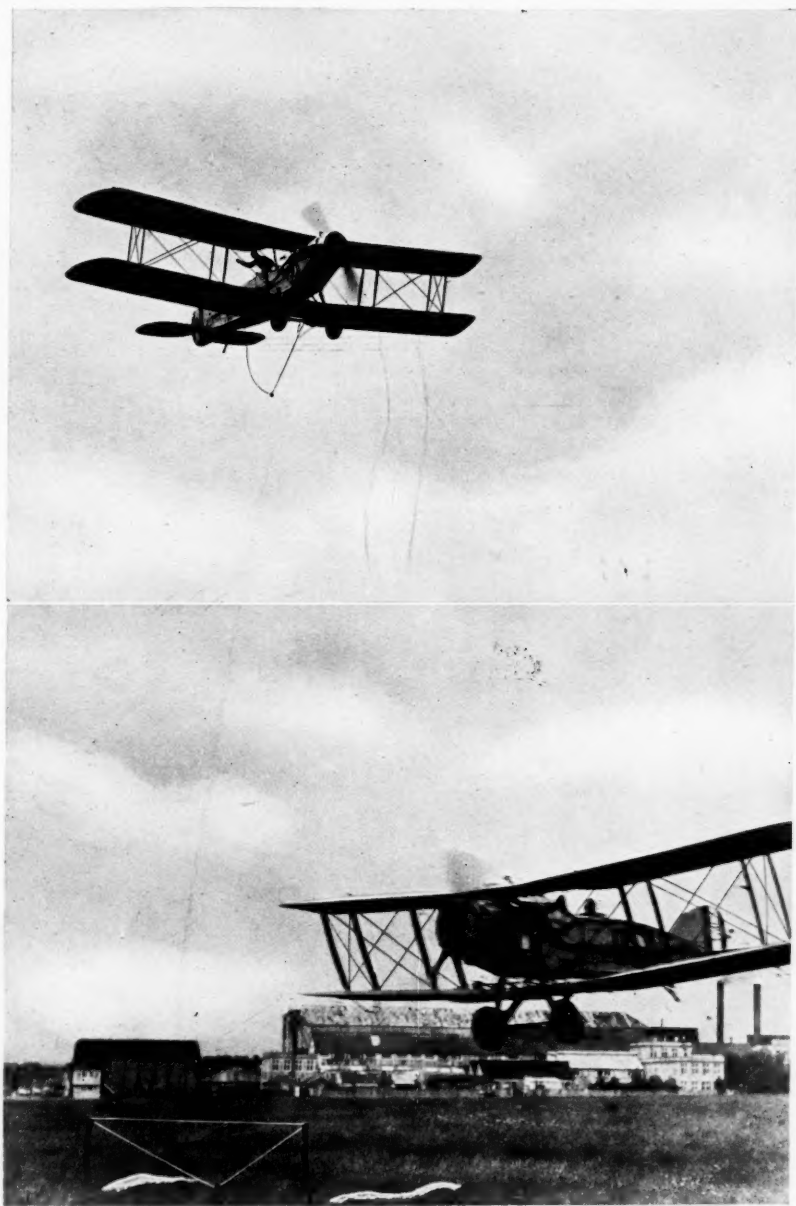
but it requires a considerable amount of ammunition if we are to give adequate practice to the observers in observing fire.

The lecturer named the difficulty of giving correct objectives to the Air Force and of the difficulties of the staff officer in giving correct instructions for air reconnaissance. The same difficulty has existed in giving correct directions to cavalry; a study of history shows how seldom the cavalry of an army has been correctly directed at the beginning of a war. It is to be hoped that we shall not make a similar mistake in the preliminary direction of our aerial forces whenever we have to fight again. The question of directions to be given by the staff for reconnaissance is not so difficult; it is a matter of laying down simple and direct questions to which can be given a straight answer, much in the same way as we train our officers to frame their questions to cavalry.

I am in general agreement with what the lecturer said about flights by staff officers and by commanders. He said, very correctly, that there may be occasions when a commander would gain great benefit by a flight for the purpose of viewing the country in front of him, not for the purpose of a detailed reconnaissance which is better done by a trained pilot. With the advance of mechanization and improvement of communication it is to me quite conceivable that in future the occasions for flights by commanders will be more frequent than they are at present. It is also conceivable that conditions might exist in a battle in which it could be of great value to have an artillery officer of experience in the air—not actually working directly to any single battery, but to give general instructions to the artillery as a whole.

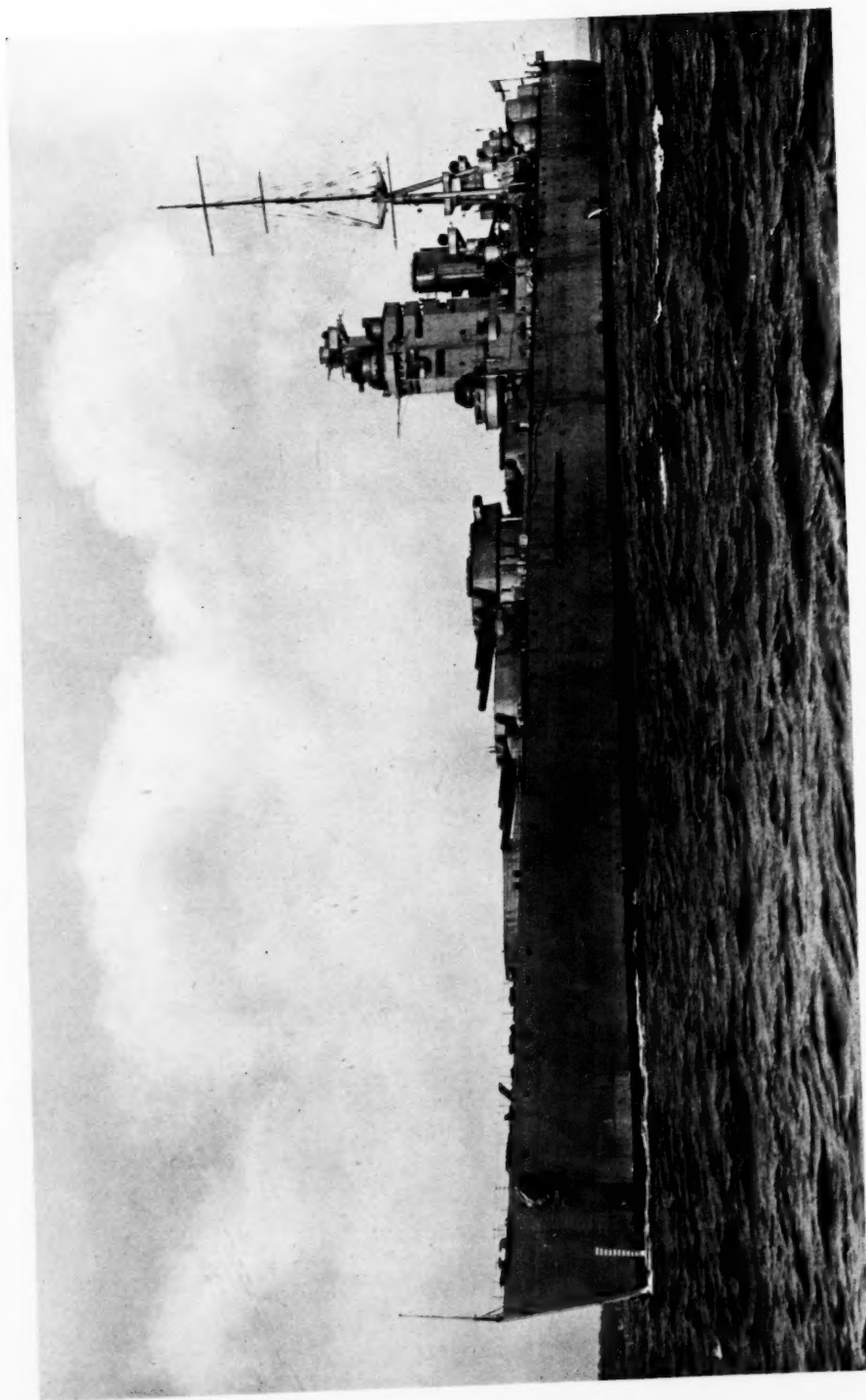
It seems to me that our task in the Army should be to make every effort to help the Air Force in achieving co-operation. We know from experience that the Air Force on their part are doing all they can to help the Army. But we must be very careful not to break the back of a too-willing horse. In the late war the work of the flying man was none too safe; in a future war it is going to be considerably more unsafe. The science of anti-aircraft artillery has made much progress, so that the task of the airman may prove truly dangerous. Consequently, in the Army, we must beware, then, that we do not ask too much of the airman. This means, as the lecturer said, that the soldier must have full knowledge of the capabilities and the limitations of the Air Force, just as we ask them to have full knowledge of our tactical arrangements and ideas, so that they can observe in the air. Reciprocal acquaintance and knowledge is, therefore, the secret of this co-operation. To borrow a phrase of which we have heard a good deal lately, what we want is not so much rules and regulations as well-informed action by "men of good will." The men of good will exist to an unlimited degree in both Services; we must, therefore, see to it that knowledge is behind that good will. This knowledge the lecture seeks to provide. (Cheers.)

ADMIRAL SIR REGINALD TUPPER, G.B.E., K.C.B., C.V.O., brought the proceedings to a conclusion with a resolution of thanks to Major-General Knox for presiding at the lecture. The resolution was carried by acclamation, and the meeting terminated.



*From photographs supplied by the Air Ministry.*

**AIR CO-OPERATION.**  
**Picking up a Message.**



H.M.S. "NELSON"

## THE RED FLEET

(The writer of this account of the Russian Navy of to-day is particularly well informed on his subject: for obvious reasons he must remain anonymous.—EDITOR.)

### I.—THE MILITARY SIDE.

#### STATE OF THE FLEET.

THE fighting Services of the Soviet Union are always referred to as "The Red Army" and "The Red Fleet"; there is no word corresponding to "Navy." The full title of the Red Fleet is the Workers-Peasants' Red Fleet, the abbreviation being the R.K.K.F.

The Red Fleet consists of the Baltic Fleet, Black Sea Fleet, and the Caspian, Far East, Arctic and White Sea naval forces. Of these the Baltic Fleet is by far the largest.

The following is a list of the ships<sup>1</sup> actually in commission and the fleets or squadrons to which they belong.

#### THE BALTIC FLEET:—

**Battleships.**—"Marat" (Flag), ex "Petropavlovsk"; "Paris Commune," ex "Sevastopol"; "October Revolution," ex "Gangut."

**Cruisers.**—"Profitern,"<sup>2</sup> ex "Rurik"; "S.S.S.R.," ex "Aurora"; "Sovnarkom,"<sup>3</sup> ex "Svietlana."

**Destroyers.**—Three divisions of five each. These are named after Soviet leaders, such as Lenin, Trotsky, Stalin, Kalinin, Zinovieff, etc. Also past communists, such as Karl Marx, Engels, etc.

**Submarines.**—Nine in number. These are named after revolutionary types, such as Comrade, Bolshevik, Commissar, Red Soldier, Red Sailor, Proletarian, etc.

**Gunboats.**—"Red Banner" and "Red Star."

Depot ships, aircraft carrier, training ship, minelayers, sweepers, T.B.Ds., and a number of auxiliary craft.

<sup>1</sup> Certain names have been translated to give the meaning.

<sup>2</sup> A contraction of "Professional International" meaning "Red Trades Union International."

<sup>3</sup> A contraction, meaning "Council of People's Commissars."



## THE BLACK SEA FLEET :—

*Cruisers.*—"Chervonnaya-Ukraina" and "Komintern."<sup>1</sup>

*Destroyers.*—Three First Grade, one Second Grade.

*Submarines.*—Six.

*Gunboat.*—"The Banner of Socialism."

*Minelayers.*—"The First of May" and "Mina."

Three small minelayers ; auxiliary and other small craft.

## CASPIAN :—

*Gunboats.*—"Lenin," "Trotsky" and "Rosa Luxemburg."

*Destroyers.*—One old type.

Other small craft.

## FAR EAST :—

*Armed Yacht.*—"Varovsky."

*River Gunboats.*—"Lenin," "Trotsky," "Red Banner" and "Poverty."

## ARCTIC AND WHITE SEA :—

Two destroyers, a fishery vessel and other small craft.

Not a single ship has retained her original name ; some have been re-christened as many as three times, as communist occasions come along, or as leaders come into or pass out of favour. It will be noted too that a particular name is not restricted to one vessel only, for we find "Lenins" and "Trotskys" contemporary as destroyers, gunboats, and river gunboats. None of the ships which comprise the Red Fleet have been actually laid down by the Bolsheviks, although their latest cruisers, the "Chervonnaya-Ukraina" and "Sovnarkom," and some destroyers have been completed by them.

It can be generally accepted that the ships in this list are in running order, and although they would hardly come up to our standards of efficiency, yet, compared to the navy of any other state in the Baltic, they are a military factor. In the event of hostilities there, the Red Fleet would probably co-operate with the Army in supporting a landing, and in any case would carry out coastal bombardments. Against any big naval Power the Red Fleet would undoubtedly resort to the old Russian naval strategy of, what Admiral Mahan termed, the "fortress fleet," i.e., a purely passive rôle, the fleet acting in conjunction with the coast defences. It is even doubtful if the submarines would operate far from their base.

The most curious secrecy is attached to the Red Fleet, even within the Soviet Union. Only on the rarest occasion does a ship's name appear in print, in spite of the fact that there are many Service journals published. Anyone in the fleet writing abroad is not allowed to mention the name of his own ship. In fact naval censorship resembles closely that of other countries in war time. The object of this appears to be propaganda purposes in order to mislead their own people as to the

<sup>1</sup> A contraction for "Communist International."

strength of the fleet. This is borne out by the newspaper accounts of manoeuvres which endeavour to give the impression that really large forces are employed; for instance, we find reference to a *squadron* of battleships, when we know that actually there were only two.

#### OPERATIONS.

The annual programme of the Baltic Fleet is divided into what is termed Summer and Winter Campaigns. The former commences in May and ends in October. The Winter Campaign therefore corresponds approximately to the time that the ice sets in, though the port of Leningrad is kept open many months later by means of icebreakers.

The Winter Campaign is occupied in refitting the ships. This work is mainly carried out by the crews, who live in barracks. Extensive courses and training on shore are also undertaken in this period, especially among the recruits.

At the commencement of the Summer Campaign the ships are "brought into line"; this is done by drafting conscripts to them. After commissioning, the ships proceed to the summer anchorage in the Bay of Leningrad. Here preliminary drills and boat work are carried out. The greatest attention is now paid to games and sports. Inter-ship and inter-fleet regattas and competitions seem to run through the whole Summer Campaign. At the end of the season big displays and competitions are held in Leningrad; they are combined with entertainments and much speech-making by prominent government officials.

After preliminary training, gunnery, torpedo and tactical exercises are carried out in the eastern part of the Gulf of Finland. Then come actual manoeuvres in which every class of ship takes part. They usually take the form of a squadron detaching and proceeding to sea twenty-four hours before the main fleet. The forces are divided into the usual "red" and "blue"; the light groups reconnoitre, the main forces meet; blank is fired, and dummy torpedo and aeroplane attacks are carried out. After the battle the rival forces unite and proceed homewards together; they are attacked *en route* by submarines, which invariably get "beaten off"—how, is not stated.

Another exercise takes the form of a coast landing. Large numbers of troops and transports have, on occasion, taken part. In fact great importance is attached to combined operations.

During the period of manoeuvres, which are the final item in the Summer Campaign, the President of the Revolutionary Military Council (corresponding to a Minister of Defence) flies his flag afloat, and is in supreme command of the operations. He conducts an inspection of the fleet before leaving harbour and on the conclusion of manoeuvres steams round the fleet, exchanging "greetings." Speeches are made and reports drawn up for the press, the greatest achievement usually stressed, being that all ships returned safely without incurring damage

or loss. In 1925 the Red Fleet went for a "distant foreign cruise" as far as Kiel Bay, and were away from their home base ten days instead of the customary four.

The Black Sea Fleet has no recognized Winter and Summer Campaigns; it puts in more sea time, and generally carries out the Baltic Fleet training programme on a smaller scale.

Amongst the detached Soviet warships are the "Aurora" and "Komsomolets" which make annual cruises to foreign ports. These vessels are employed as training ships; they are away for about six weeks, calling in at Norwegian and Swedish ports, and proceeding thence to North Russia. The "Aurora" is particularly selected, as she is the historical ship that fired the first shot in the October revolution of 1917.

Other occasions of Soviet ships visiting foreign ports are the visit of the Black Sea destroyers "Petrovsky" and "Nezamojni" to Constantinople and Italian ports. Also the armed yacht "Varovsky" called in at Plymouth and other ports on her way round to Vladivostok.

The occasions of the visits of foreign ships to ports of U.S.S.R. are limited to the visit of the Italian scout "Mirabello" and the Swedish cruiser "Fylgia" to Leningrad. Japanese warships also have visited Vladivostok.

#### PERSONNEL AND TRAINING.

The old word "riadovik," denoting rating, is still retained, but the new word "redfleetman" is most common. The lower ratings of the Red Fleet mainly consist of conscripts, who are taken on for four years. About twenty-five per cent. of these re-engage for periods of one year, which may be repeated up to thirty years of age. Enrolment of conscripts takes place in the autumn. They may be sent either direct to naval ports, or to local naval training centres which are provided with certain training facilities. Courses are held during the winter and spring, which are mainly of a general educational character, the recruits are then drafted into the fleet for the summer campaign.

Petty officers, or "starshinas," are advanced from conscripts, and may re-engage in yearly periods up to forty years of age.

Shortly after the Bolsheviks had abolished the rank and function of officer, they realised that something was needed in his place. They got over the problem by re-introducing officers under another name—"The Commanding Staff," which is divided into Junior, Middle, and Senior categories. At first, six months was considered the time necessary for producing a person capable of carrying out officer duties; this period has been gradually raised, until it has now reached six years.

Candidates first undergo preliminary training at the Preparatory School; they are then sent to the Naval School for three years; the most successful candidates then go on to the Naval Academy, where they specialize, the executive branch being considered a speciality. The

passing out of students, when they are graded "Junior Commanders of the R.K.K.F." is made a ceremonious occasion; there is a march past, speeches are made, the oath is taken, and congratulations are received. The date is often made to coincide with some revolutionary holiday.

A naval officer is always referred to as a "commander<sup>1</sup> in the R.K.K.F.," his equivalent in the army being a "commander<sup>1</sup> in the R.K.K.A." Collectively they are known as the "Komcostaff" or "Commanding Staff." Office and not rank is recognized, and everyone is addressed as "Comrade." The Captain is called "the commander of the ship," whilst the executive officer is "the assistant commander." In the specialist branches the gunnery officer is "the artillerist of the ship" and the torpedo officer "the torpedo-man of the ship." The title admiral is abolished, but the post is not, so the social difficulty is overcome by calling the person holding it the "flagman." The term however is very loosely used, and may mean the flagship as well.

The Commander-in-Chief of the Baltic Fleet, or to give him his correct title, "Chief of the Naval Forces of S.S.S.R. in the Baltic," is one Comrade Vekman, a former Tsarist officer, one of a dozen of the former Russian naval officers who have taken service in the Red Fleet.

The supreme command of the Red Fleet devolves upon Comrade Muklevitch, "The Chief of the Naval Forces of S.S.S.R. and Head Commissar"; he has succeeded Zoff, who was relieved for sympathizing with Trotsky's party. Muklevitch is a member of the Revolutionary Military Council as well. He started life as a fabric worker; before the Revolution, he was a private in the Army. Until his appointment as Deputy Chief of the Air Academy in 1925, he held purely political appointments.

Officers' uniform is very similar to our own. The double-breasted monkey jacket is worn for best. Gold distinguishing lace, of three widths, is worn on the cuffs. The cap badge consists of a golden anchor on a black oval field with golden ears of corn on either side, and a red star over it. The buttons merely have an anchor in the centre. The cap badge, distinguishing lace, and buttons are gold for those serving in the fleet, and silver for those outside. A revolver and sword are worn by officers of the fleet, a dirk by others. On shore, officers wear plain clothes.

The status of officers has been gradually raised until there is now little to distinguish it from that in any other navy. The middle and senior rank "commanding staff," and their equivalent ranks in the medical and political branches, live in the Ward Room, which is run like any other Ward Room, except that officers invite ratings as guests. There is a special W.R. galley, attendants and messman.

All Ward Room officers are allowed cabins, but owing to the number of officers, caused by the addition of political officers, the cabins do not always run out, so a special part of the mess decks is partitioned or

<sup>1</sup> Russian "Komandir."

screened off for junior officers. In the regulations governing the allocation of cabins, the phraseology is rather quaint and almost amounts to an apology for the fact that officers are allowed cabins, a reason being given in each case of allocation. The cabins are, further, always to be situated near the scene of the duty of the occupant, such as "the company commander" being near the living space of his company; the Captain having the bridge sea cabin, etc.

The ratings live in the mess decks in the usual manner, and the regulations are just as strict as in any other navy. A starshina is in charge of each mess; there are strict rules regarding cleanliness; ratings are not to be in working rig, nor to wear caps during meals.

#### DECORATIONS.

The Bolsheviks, having abolished all decorations, suddenly announced the advent of "revolutionary" decorations. There are already a number of these, and no doubt the list will grow. By far the most common is the "Order of the Red Banner," of which about 5,000 have been given away, mostly for service during the Revolution. The decoration is a somewhat large red rosette with a red enamel flag in the centre on which is inscribed the communist slogan "Proletarians of all Countries Unite." It is worn on everyday clothing on the left breast, where more than one is bestowed, they are worn side by side. A more recent Order is the "Order of the Red Star," of which there are first and second classes. There is also the "Order of the Crescent." In these decorations the Cross, always a feature of the former historic Russian decorations, is now extinct: the authorities have even gone to the extent of introducing the Crescent.

In addition to the above, we find the more international and civil medal—the medal of the M.O.P.R. (The Class War Prisoners' Aid Society, as the organization is known in this country). There is also the special award of the "Firearm of Honour," a more Socialistic gift than a sword of honour; this is reserved for high officials. In the same category come the cigarette case, the gold watch, and even a horse, which are official presentations.

#### II.—THE POLITICAL SIDE.<sup>1</sup>

In the political side of the Red Fleet, we come at once into contact with its alleged international character. Here the fleet must be viewed in its proper perspective, i.e., as a branch of the Red Army. As such it shares the ostensible purpose of the latter, which is nothing less than to be the international fighting force of the working masses, or more correctly, the communists masses, of the world, who, through revolution, shall dominate all other classes and their lands, ultimately becoming

<sup>1</sup> Compare "The Red General Staff Academy, etc.," and Army Notes in R.U.S.I. JOURNAL for August, 1926.—EDITOR.



part of one Union of Socialist Soviet Republics. The underlying object of the political organizations in the Red Fighting Services is to create a large communist armed force, which the government can rely upon for support. Every man is practically forced to become an active supporter of communism.

#### POLITICAL PERSONNEL IN A WARSHIP.

All political officers in the fleet graduate in the Naval Political Academy called "Roshalia," which is situated in Leningrad. Ratings and others also hold political appointments, but they have only undergone courses.

The political staff of a battleship is comprised of the following :—

*The Military Commissar of the Ship*, who ranks with the Captain. He is the director of the political work in the ship, and is head of the political department. He possesses extraordinary powers, may punish any officer, reports on the Captain, and only on purely technical matters may the Captain act without consulting him. The latest tendency is to combine his and the Captain's duties; for instance, the Military Commissar is responsible with the Captain for the ship's routine being carried out, and the Captain, in his turn, is jointly responsible with the Commissar for the "moral-political" state of the ship.

("Moral-political" is one of the many new revolutionary terms which have been coined; similar others are, "Culturno-enlightment," "political-enlightment," etc.)

*The Assistant Military Commissar* ranks with the commander of the ship; he is generally the right-hand man of the Military Commissar.

*The Political Guide (Politrook)* directs the political training of the redfleetmen, and organizes the work of the political instructors. He ranks as a "Junior Commander of the R.K.K.F."

*The Assistant Political Guide (Politstarshina)* is the leading political rating and carries out the duty of instruction.

*The Responsible Party Organizer* directs the work of the V.K.P. (b)—the All-Russian Communist Party (Bolsheviks), which is the oldest communist organization. He is directly responsible to the Military Commissar.

*The Organizer of the V.L.K.S.M.* directs the work of his particular organization, the "All-Russian Lenin Communist League of Youth."

*The Secretary of the "Cell" Bureau* organizes the communists' "cells" or nuclei in the ship.

*The Manager of the Lenin Corner* is best described as the priest of the new religion of Leninism—the only religion allowed on board. (A regulation forbids ikons of the old orthodox faith being displayed).

*The Secretary of the Liaison Commission* forms the liaison between the political organizations ashore and in the ship.

This is the full political complement of a big ship, and is reduced for smaller ships; even a submarine is never free of the political element. In a flagship, there is the Staff Commissar, who ranks with the Chief of Staff. Higher than that, the political rank is combined with the military rank in the same person, such as, "Chief of the Naval Forces and Commissar of the Fleet," the individual in question being much more commissar than commander-in-chief. Collectively all officers, military and political, are known as the "kompolitsostaff." Until lately all officers and men were known without distinction as "redfleetmen."

#### POLITICAL ORGANIZATIONS IN THE RED FLEET.

So complicated and numerous are the political organizations, clubs and cliques that it is only possible to deal briefly with them.

Quite apart from the pure communist doctrine, which few can grasp, the authorities have inextricably mixed up subjects which have no connection whatever with communism, such as hygiene, sport, military discipline, and a certain amount of general education; the whole is served up under the heading of Communist Political Enlightenment, with the result that the simple Russian folk really believe that these outside subjects are communist attributes. In fact, politics permeate every feature of life on board ship, such as amusements, ceremonies, discipline, advancement and promotion, training, just as on shore it enters into religion, justice, the stage, literature, art, etc.

Every man has to undergo compulsory political training, which is apportioned according to his term of service; for instance, a four-year man has to put in 754 hours of two-hour spells. Recruits on first joining are met by political officials, and at the end of their time they are given a ceremonial farewell by a political organization. As an example of the success of their communist training, the political staff of a warship printed a letter from a redfleetman, who wrote, "that before being taken in hand, he did not know the existence of a country called England, but now he is quite familiar with all details of the conditions of its working class."

The principal organizations to carry out this "political-enlightenment" are, the *V.K.P. (b)*—*All-Russian Communist Party (Bolsheviks)*—and "Candidates" for the same. Forty to fifty per cent. of the ship's company belong to it. As there are such material advantages to be gained from membership, it may be asked why everyone does not join. No doubt all tried to, but this was forestalled by the authorities, who foresaw that the thing was likely to become a farce, so made it more exclusive by instituting "Candidature," in which every aspirant must undergo probation and, no doubt, must know something of Karl Marx's doctrine of class hatred and world revolution before being admitted.

Next comes the *K.S.M.*, "*Komsomol*," or *Young Communist League*, as it is better known. Like all these organizations it divides and

continually changes its name. We first had the R.L.K.S.M.—“The Russian-Lenin Communist League of Youth”; now it has appeared as the V.L.K.S.M.—the All-Russian-Lenin Communist League of Youth. About twenty-five per cent. of the ship's company on an average belong to this. The K.S.M. holds the “patronage” of the Red Fleet, and the international nature of the Red Forces is emphasized when we are reminded that the branches in foreign countries are affiliated to this League. The multifarious branches and local K.S.Ms. further “honour” individual ships or units with their local patronage; thus the V.L.K.S.M. holds patronage over the Black Sea Fleet and the Moscow K.S.M. holds patronage over the battleship “Marat.” (Patronage apparently need not be limited to one body, for we read that the Leningrad Metal Worker's Union is also a patron of the “Marat.”)

The K.S.M., being imbued with the ardour of youth, is a particularly active organization; besides the everlasting propaganda work, it collects money and supplies large batches of recruits from its membership.

The “Nuclei” or “Cell” Organization contains the active workers for converts to a particular speciality of communism. A good example of this are the “atheist cells.” Lacking information about them in the Fleet, I will quote a Soviet Press account of their activity in the Red Army:—“In the Moscow garrison the atheist cells amount to eleven, embracing over 1,000 men. . . . Cells at the military schools chiefly conduct clique work; members of these cells undergo district anti-religious courses. . . . At the present time the cell of the Engineering School, now in camp in the Sergievski Province, is conducting anti-religious work among the peasants of the neighbouring country. . . . At the present time the atheist cells are ready to work with men about to go on leave, in order to prepare them for practical work in the country.”—*Red Star*, 14th July, 1926.

During the Christmas festival we read that in nearly all the Red Army clubs anti-religious addresses were given. Examples of the subjects are “Christmas, a Class Invention,” “Religion hinders the Progress of Socialism,” etc. In the Perekopski Barracks, at the instigation of the editor of the newspaper *Atheist*, an anti-religious exhibition was held.

Next come the *Kruzki* (lit. “little circles”), best translated as “cliques”; these are closely correlated to the cells, and may best be described as the club formed by the cell activity. Somewhat similar are the *Kernels*, and we further find reference to the *Activs*, *Agits*, and *Collectivs*, no doubt all of the same family.

The *Fleet Soviet* or *Council* may perhaps be considered the only organization of its kind approaching the non-political. It deals with economical and social problems, and is comprised of a mixture of officer and sailor representatives and their wives.

The *Lenin Corner* is a great feature in every warship, as it is in every club, factory, or government institution in Soviet Russia. It is a space set aside for the reverence of Lenin and the study of his works; it contains what is practically a shrine—a portrait of Lenin, draped in red, surrounded by framed quotations of his utterances, and, in some cases, by actual Lenin relics which are now regarded as sacred. The *Lenin Corner* comes under the charge of a special "manager," who has a small staff. *Red Tables* are the latest innovation; they are a sort of miniature *Lenin Corners* placed in the mess decks. In the "*Marat*" there are twenty-nine *Red Tables*.

In my opinion the man who stands out against the pressure of all these organizations is a hero; he is termed a "non-partisan," for there are no other legal parties but the communist one. His chances of advancement are practically nil; he is branded as politically unreliable, and is marked down to be relieved by a "partisan" as soon as this is possible. The percentage of "non-partisans" varies in different ships, but twenty-five per cent. may be considered the average. In the "*Marat*" fifty of these were converted last summer campaign.

To put propaganda work on a business footing within their own shores, organizations rather like cruising clubs are formed for liaison with the neighbouring towns and villages from where a ship lies or visits. Excursions well into the country are arranged, "portable *Lenin Corners*" are taken; the villagers in their turn pay visits to the ships. A factory is always the subject of exchange of visits, and these are of an official nature. More curious still is the exploitation of the "patronage" habit for propaganda purposes. Individual ships patronise a particular village or small town. The "*Marat*" has adopted two—the village of Kosholovo for the summer campaign, and the village of Arbolovo for the rest of the year. The main idea appears to be to "politically-enlighten" the patronized.

In spite of the importance attached to the political element in the Red Army and Fleet, there is no doubt that the duplication of military and political officers in fighting Services is an embarrassment. Regulations are constantly brought out defining the status of commissars. Furthermore, there are difficult situations arising from ratings holding high political offices. For instance, in the "*Marat*" a certain Georgiefski is both an ordinary seaman and President of the Political Liaison Commission, which means that in his official political capacity he is entitled to a guard and band, whilst on other occasions he may be called upon to form the guard. Similar anomalies occur when lower ratings are included in the list of official patrons of the ship they are serving in.

The policy now seems to be to make commissars combatant as well as political. Courses of four years' duration have been started for this purpose. There is no doubt that the Soviet authorities would like to dispense altogether with the pure military element; but there is little chance of them being able to do this, for the type of political agitator



that the commissar is drawn from lacks all the essentials of the fighting man. To start with, the commissar branch seems to attract a particularly unhealthy type of individual; there was quite a scandal about twelve months ago when a medical report proved that sixty per cent. of them were below the standard of physical fitness. Again, their courage in action is rather a doubtful point. For example, during a scrap in the hills with bandits the commissar with the troops was found after the action hiding under a waggon. He was sentenced to death by court martial for cowardice, but the sentence was afterwards commuted on consideration of the prisoner's record during the Revolution.

#### "PRAZNIKS."

An article on the Red Fleet would not be complete if it neglected that essentially Russian institution, the "praznik," or holiday. In the old Tsarist days there were many of them, most being connected with religious festivals or with the Royal Family, such as birthdays, christenings, days of accession, etc., and their anniversaries. In the reorganized Red Fleet, the "praznik" has persisted, but how different is the new list of occasions deemed worthy of celebration! There is no Royal Family, and religion is officially disowned, if not actually persecuted. Here are a few typical examples of what is now celebrated and the mode of observance:—

In the month of November there became due a very big (*sic*) occasion—the Anniversary of the K.S.M. accepting, or more correctly, taking, patronage of the Red Fleet. To the uninitiated, this does not seem much to make a fuss over, but the festivities, speech making, parades, and exchange of visits lasted a whole week, whilst official greetings occupied the best part of the daily press. Delegates of the K.S.M., we read, arrived from all parts of the Soviet Union, and the particular ships under their patronage "bought it," as the American would say. They rendered accounts of the "politically-enlightened," and the "moral-political" state of the ship, whilst the particular branch of the K.S.M. got primed with naval propaganda to take back to their district for the purpose of collecting funds and recruits.

Last October there was duly observed the ninth anniversary of the October Revolution. Needless to say the battleship "October Revolution" and the minelayer "October" came in for their full share of attention.

Labour Day, the 1st May, may be said to rank first as a national holiday. It is the communist big "religious" day. Delegates arrive from all over the world, instead of just from the Caucasus or Urals, as on other occasions, and all this takes time, so three weeks are laid aside for Labour Day preparations.

There is little change in the mode of observance of any Soviet "praznik." The V.K.P., the K.S.M. and the V.I.L.K.S.M., we are informed, ceremonially greet the redfleetmen, and the redfleetmen



ceremonially greet the V.K.P., etc. The same speeches are made and the same greetings exchanged; occasionally, however, a ship gets re-named.

Another series of "prazniks" are those celebrating the anniversaries of the deaths of prominent Soviet leaders, such as Lenin, Frunze, Djerzinsky and Varovsky. Then there are the immediate naval ones, such as the celebrations of the anniversaries of past mutinies in the fleet. Of these the 1906 mutiny in the Black Sea Fleet is the most important. The ringleader, a certain Lieutenant Schmidt, is eulogised as the hero, so the destroyer "Lieutenant Schmidt," the seaplane station "Lieutenant Schmidt," and the club "Lieutenant Schmidt" figure most prominently on this holiday. Incidentally, all the participants in this mutiny who were not shot at the time, are in receipt of government pensions, whilst the officers who conducted the court-martial have in their turn been tried and sentenced.

Again, each ship has a jubilee every five years. In addition it has an annual holiday, when all other ships send greetings, and in the case of battleships, a nine-gun salute is fired. Then there is "Red Fleet Week," just as there is "Air Force Week" or "Chemical Warfare Week." The organizations concerned, such as the "Friends of Chemical Warfare," or "The Womens' Poisonous Gas League," become specially active, and ceremonial greetings are exchanged.

Closely resembling the "praznik" is the ceremonial visit of communist or socialist celebrities, either Soviet or foreign, to the fleet. In this category come also the visit of workmen's delegates of all countries. Accounts have appeared in the Press of visits to the Red Fleet by German, Swedish, Norwegian and Belgian workmen, also of the visit of a British Socialist M.P. They have been received with guards of honour, and have addressed meetings of sailors and workmen. The reference to "class war" comes with regular monotony, and sometimes, carried away by the reception accorded them, the delegates make all sorts of extravagant and misleading statements about the feelings of their fellow-workers at home.

#### THE FUTURE.

As regards actual material construction, the Bolsheviks are building a few submarines, and still completing destroyers and a light cruiser or two laid down before the Revolution, but compared to any other naval power, such construction is very slow and insignificant.

In general, there can be no doubt that the Soviet Union will never be classed as a Sea Power comparable to the former Russian Empire.

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## THE CARDWELL SYSTEM:

### A CRITICISM

By CAPTAIN G. L. APPLETON, R.A.

THE military organization with which we entered upon the Great War was based on the system initiated in 1872 by the Secretary of State for War, Mr. Cardwell. Although modernized by Lord Haldane and his predecessor, it has now stood for over fifty years. It speaks well for the soundness of Cardwell's reforms that it should have lasted so long and come through the test of two wars of consequence.

The Army's need for reserves had been demonstrated during the Crimean War, in the Indian Mutiny, and again during the years when the events of 1859 had given rise to fear of French aggression. It was made still more evident in 1864 and 1866, when the Prussian victories against Denmark and Austria demonstrated that success could attend a large conscript army mobilized out of small peace effectives backed by adequate reserves. So the great successes of Germany in 1870-71 prepared the country for the reforms which Mr. Cardwell introduced shortly after. Briefly, he brought about the following changes:—

- (a) Short service;
- (b) Equalization of the number of regular infantry battalions at home and abroad;
- (c) Territorialization of the infantry.

He further aimed at drawing together the Army, the Militia and the Volunteers into a homogeneous whole.

As a first step the Militia was removed from the Lords-Lieutenant of Counties and placed directly under the Crown. The country was next divided into sixty-six Brigade Districts, outside of which were the Foot Guards, the 60th Rifles and the Rifle Brigade. Regular battalions were linked in pairs, one abroad and one at home. Each Brigade District thus maintained two Line battalions (one abroad and one at home), two Militia battalions and the Volunteers in the area. A depot for each Brigade District was formed by detaching two companies from each Regular battalion. It was the intention that on mobilization this depot should form the nucleus of a depot battalion for the maintenance of the Regular and Militia battalions of the District. In 1881, the Brigade Districts were converted into territorial regiments, of which the Regular, Militia and Volunteer battalions all formed part.

The Haldane reforms of 1907 cut at the root of Mr. Cardwell's scheme by altering the functions of the Militia and Volunteer battalions. After disbanding some militia battalions and forming others into Special Reserve Battalions for service abroad in war, the remainder became reserve battalions for training and drafts to regular units. Thus the Militia lost its character as a second line for actual service in the field, and generally speaking came to fulfil the functions in war which Mr. Cardwell had allotted to the expanded depots, that is the depot battalions.

Further, the Volunteers became the Territorial Force and were thus divorced from Mr. Cardwell's system. They retained the titles of the Regular battalions and were raised in the same districts, but save for a certain liaison of personnel there the organic connection ended.

The Cardwell system was based on the underlying idea of the possibility of expansion in war. The expanded depots were to feed the Regular units, the Militia were to be the vehicle of expansion, while the Volunteers provided the home defence units. The Haldane scheme effectually prevented the Militia reserve battalions from becoming the means of expansion by placing on them the duties of training and draft-finding in war. The Territorial Force was not intended to expand and existed primarily for Home Defence. Thus it was on the outbreak of war in 1914 that we were unprovided with a means of expansion.

At the time of Mr. Cardwell's reforms our political policy turned upon the maintenance of the balance of power, coupled with an avoidance of military commitment in Europe. The Crimean War of 1854 proved to be our last armed intervention in Europe for sixty years. Thenceforward our foreign policy became one of words not deeds. So much so that the more astute foreign diplomatists knew that England's approval or disapproval would not, save in the very last resort, be translated into action. The effect of this idea on Bismarckian policy may be traced up to the outbreak of war in 1914. This conception was not without effect on Mr. Cardwell's labours. Although the provision of reserves for war formed an important feature of his plan, the provision of a Striking Force for service in Europe was, in conformity with this same policy, of secondary importance. The primary object was the provision of garrisons abroad and in India. The Striking Force was entirely dependent upon that necessity. Its personnel, the Regular troops at home, were residual only; they were merely the outcome of the arrangement by which each unit abroad was to have a draft-finding unit at home, capable of expansion to war strength from its own reserves, should it be called upon for active service.

After the end of the South African war, at the opening of the XXth century, the rapid rise of Germany materially affected our European outlook. England was compelled, whether she liked it or not, gradually to modify her policy and to visualize the contingency of military intervention on the Continent. She found herself provided with an army

organized on a system which had a Colonial and not a European orientation. The military authorities were unable to persuade Parliament, and through it the people, of the necessity of a radical change of outlook. To provide an Expeditionary Force they could only draw upon the troops actually at home, that is, the residual troops of the Cardwell system. Out of these Mr. Haldane was able to organize six divisions and a cavalry division prepared for early intervention in Europe; but that was all. Faced with a European crisis of the first magnitude we were thus provided with a weapon, excellent and efficient in itself, but inadequate. Furthermore, as has already been shown, the potential usefulness of the Cardwell system as a means of expansion had unfortunately been sacrificed owing to the change in the functions of the militia.

The paradox may here be noted that the requirements of India were then, and—for the matter of that—are still, the chief factor in determining the strength, and an important factor in determining the organization, of the British Expeditionary Force at home: strength, because infantry units at home should equal those abroad: organization, because drafts and units proceeding to India must be trained and organized to meet Indian requirements. This last point is proving a difficulty to-day in schemes for increasing fire-power and for a mechanization at home which may be unsuited to India or unacceptable to the Indian authorities.

The Cardwell system is an inheritance which has survived a tremendous military inflation and an even greater deflation.

We have, therefore, now to ask ourselves the crucial question: does the "linked battalion" system, which subordinates our strength at home to Indian and Colonial requirements, satisfy our needs to-day? So far as preparation for war is concerned it may be argued that the conditions of to-day are no longer those of 1914, but rather approximate to those obtaining in 1870, in the sense that military intervention in Europe is a far more remote possibility and that, therefore, a Colonial orientation in military organization is sound. It is true that, at the moment, the aversion of the greater nations to war will probably prevent any immediate upheaval. But it must be remembered that modern scientific developments have seriously affected the insularity of Great Britain, and that a policy of non-intervention is now politically impossible, apart from the fact that she is actually pledged to certain military guarantees under the Locarno treaties.

In peace, if conditions abroad were stable from decade to decade, the "linked battalion" system might be considered sound as assuring a certain permanency to the strength of the Regular Forces at home. But experience shows us that conditions abroad are anything but stable. Prior to 1914 the Dominions, except South Africa, had dispensed with our Regular garrisons and had replaced them with their own troops. This reduction of over-sea commitments should logically have resulted



under the Cardwell system in a contraction of the Home Forces. To avoid such a contraction—which the European situation rendered quite impossible—other stations for the displaced battalions had to be found in overseas garrisons, without real reference to the requirements of those garrisons but purely in order to keep up the Cardwell balance. At least one regiment was compelled to have both its battalions at home, which was an infraction of a principle of the Cardwell system.

As an eventual result of the late war a great contraction has now taken place from motives not of re-organization but chiefly of financial necessity and, in the case of the Irish regiments, of political expediency. A further anomaly has resulted, namely, a declaration that the Rhine Army formed part of the Home Army, in other words that our commitments abroad were too large to enable us to keep sufficient draft-finding units at home under the "linked battalion" system, where indeed in view of the post-armistice European situation, they were not required.

An analogous difficulty will arise when the Rhine Army is withdrawn. It is quite possible that difficulties in obtaining barrack accommodation for these troops will cause some of them to be stationed in Colonial garrisons. Are these additions to the foreign stations to be considered as home or foreign battalions under the "linked battalion" system?

An instance, illustrating this difficulty, occurred before the war when in order to keep up the Cardwell balance the garrisons of Malta and Gibraltar were quite illogically considered for a time as home stations for certain units.

Again, to take a hypothetical case: suppose that twenty British battalions were withdrawn from India. What will be done with them under the Cardwell system? Are they to be put into Colonial garrisons without reference to the Colonial situation, merely in order to afford a reason for the maintenance of their opposite numbers at home? Or are they to be disbanded and with them twenty more at home without reference to the European situation?

Consideration of instances such as these bring conviction that the "linked battalion" system, while being deceptively convenient under stable conditions, bears no real relation to facts.

The Cardwell "short service" reform, needless to say, does not come under this criticism. It does meet drafting requirements and does provide adequate trained reserves. But the present regimental system rests entirely on the basis of the Cardwell linked battalions, which is, as already shown, not adapted to modern requirements.

Certain other weaknesses of the regimental system have become apparent in recent years. The "territorialization" of the linked battalions was brought about by the assumption of county title, as recently as 1881. The object of this was to bring Regulars, Militia and Volunteers into territorial groups or regiments. The personnel for each regiment, other than regular officers, was drawn from the appropriate



regimental district. *Espirit de corps* and homogeneity of traditions and training was to be the outcome: a laudable ambition. The *esprit de corps* of the old numbered foot regiments was merged in a larger *esprit de corps* of the linked battalions and of the territorial district, not, be it said, without strenuous opposition from many line regiments. But recruitment now is no longer confined to regimental districts. Men are drawn from zones, each of which covers a number of regimental districts, London and other large towns being general "pools." A large proportion of the men in each infantry battalion must, therefore, come from outside the appropriate regimental district. The idea of a territorial *esprit de corps* is thus no longer completely effective.

It is, moreover, very rare for the Regular battalion at home to be stationed in its own regimental district. The Regular infantry within a regimental district consists only of the comparatively insignificant numbers stationed at the depot. The reserve battalion cadres no longer exist. The Territorial Army infantry units thus see little or nothing of their Regular "opposite numbers." The value of the territorial link which now exists between Regular battalions and their Territorial Army battalions must therefore be somewhat slender, seeing that they are never in proximity to each other. So that not even the interests of the Territorial Army can be adduced as a good reason for "territorial" Regular infantry regiments.

Again, the corps of infantry officers formed in each Regular infantry regiment is too small. Glaring inequalities of promotion arise which can only be rectified by "bringing in" officers from commanding officers downwards. Not only does this not encourage the regimental *esprit de corps* which is one of the principal *raisons d'être* of the existing system, but by arousing feelings of dissatisfaction among those "passed over" it has a diametrically opposite effect.

The segregation of infantry officers into three-score separate compartments produces in the various regiments differences of reputation, of efficiency, and of military spirit. The system, while conferring benefits in the shape of a high regimental tradition on some units, arouses the suspicion of a less desirable spirit existing in others. This must have an adverse effect on the military efficiency of the latter.

Generally speaking officers are drawn from the same sources for all regiments. If all infantry officers were members of one corps of infantry and not of individual regiments there seems no reason why the same standard should not be attained in all units. Would it not be better that an officer should not remain in one regiment for the whole of his service, but should be posted at intervals from one battalion to another—with valuable results not only to himself but to the infantry as a whole?

Such a proposal would undoubtedly meet with great opposition from the Guards, the Highland regiments, and other infantry corps d'élite. It might cause suitable candidates, who would under present conditions enter one of the more favoured regiments, not to offer themselves for

the suggested corps of infantry. It is certain that such regiments could not stand wholly outside without stultifying the whole scheme. It might be possible to arrange a system of selection and posting in rotation to the Guards, for example, somewhat analogous to that obtaining now in the Royal Horse Artillery. It would do no harm to officers, who can now aspire to spend their entire service in one of the more famous and favoured regiments, to do occasional tours of duty in units less *à la mode*. It would certainly broaden their outlook, while the Army as a whole would benefit considerably from the fact that a larger number of officers than at present would serve, at one time or another, with regiments possessing so special a tradition and standard. Though this point constitutes a serious difficulty, it may be claimed that it is worth surmounting in view of the advantages that must accrue to the Army from one corps of infantry.

In the late war, as is well known, the regimental system broke down, as it must again break down in any war of magnitude. The Military Transfer Act and the institution of a single "Training Reserve" in place of the reserve battalions were sufficient evidence of this fact. It was found impossible to maintain infantry regiments in watertight compartments, either as regards officers or men. Demands for reinforcements varied greatly according to casualties: regimental districts varied greatly in the recruits that could be produced, having in view not only the male population available, but also the demands of industrial production. In the field, moreover, the division became the paramount unit; it virtually ousted the regiment or the battalion from its former place.

To sum up, it is not too much to say that the existing regimental system is no longer suited to our needs. It was found wanting in war and is now slowly breaking down in peace. Modern requirements point to the institution of one corps of infantry, both of officers and men, analogous to the Royal Artillery and Royal Engineers. The institution of a single corps of cavalry would be a corollary. Such a development would at once meet with strenuous opposition from conservative minds on the score of tradition and *esprit de corps*. Progressive developments are habitually met with the outcry that they are destructive of tradition or *esprit de corps* or both. So much vague talking and still vaguer thinking on this subject is prevalent, that a brief and unprejudiced examination of the true significance of tradition and *esprit de corps* can only tend to clear many misapprehensions.

We know and accept the fact that morale is an essential factor in making war, both in the army and in the nation. *Esprit de corps* is one of the means, and an extremely valuable one, by which morale is maintained. But it is not an attribute peculiar to old established units, to geographical or to class agglomerations. It is purely an artificial state of mind which can be produced within a reasonably short space of time in any trained body of men by efficient leading and administration. It

is not confined to units of the size of battalions or regiments, for it was often observed in the late war to grow out of real attachment to a larger formation, such as a division.

Needless and useless destruction of old units, and thereby of old-established *esprit de corps*, is to be deprecated as a waste of good material. But *esprit de corps* can be recreated and the plea of its preservation should never be allowed to form a real obstacle to a well-considered and necessary plan of re-organization.

What is the real value of "tradition" to a unit? Tradition consists of two distinct forms, historical and ethical. Historical tradition is simply a memory, written or unwritten, of feats of arms performed in the past by units which purport to be the predecessors of our present-day units. "Purport" is used advisedly, as the connection between the old and new is not infrequently somewhat nebulous. In some instances it has consisted, in the Royal Artillery for example, of a rather Gilbertian connection by regulation; some artillery units were officially ordered during the period of reconstruction to take over the private property "and traditions" of a deceased or disbanded unit. Now, assuming that a unit possesses, as many do, an unbroken and glorious history under various names spread over perhaps a couple of centuries, of what practical value is that tradition to the unit to-day? Does the fact of a gallant stand at Waterloo or a fighting retreat on Corunna have any effect on the morale of the unit now? Probably not half the officers or five per cent. of other ranks have ever consciously realized that their predecessors were at Waterloo or Corunna at all. There may prevail a vague idea that the unit has an ancient history; officers and men would rather belong to the "Fighting Nth" than to any other regiment; but that is all. One comes, then, to the conclusion that historical tradition is rather a desirable adornment to a regiment than anything else; that its influence on the modern unit is not really very deep—if, in certain cases, it exists at all.

The other form of tradition is ethical. It is the code of behaviour which has been built up by successive generations of officers and men. It is not peculiar to any unit, but is general to the whole Army. It expresses not merely a military ideal but also reflects the best elements of the national spirit. Its growth is mainly unconscious and is a product of the ordinary daily life and training of the unit. It is indeed the real foundation of a national and military morale.

Tradition may be abused and may become merely a cloak for a well-meaning but unthinking conservatism, than which there is no more potent opposition to progress. The problems of the Army to-day must be viewed objectively; principles can guide us but there the influence of tradition must stop.

Let us now recapitulate the position. The basic failing of the Cardwell system, as it exists to-day, is its rigidity. This may be summarized under two headings: Peace and War.

In Peace, the principle that the number of battalions at home must equal those abroad is inelastic and bears no relation to requirements; it subordinates the strength, and to some degree the organization, of the British Expeditionary Force to the requirements of India and the Colonies, which is illogical.

The regiments formed under the Cardwell system are too small to afford equal opportunities of promotion to infantry officers. The areas on which they are based are too small for efficient recruiting.

In the Great War, the Cardwell system ceased to have any value, since it possessed no powers of expansion. It would and could not function when large and varying numbers of reinforcements were demanded from it. Our basic military organization must possess elasticity above all things. It must be capable in Peace of ready adjustment to meet changing conditions, and in War of rapid expansion.

Consequently, it seems desirable that a general corps of infantry should be created; yet it must be realized that the practical difficulties are serious. It would be desirable, at any rate as a first step, to group regiments together for the purposes of promotions, postings and recruiting. As soon as public opinion has become accustomed to this change, the next step, a difficult one, would be the submersion of the identities of the separate regiments in that of the group. The group of regiments would itself become a regiment, and the former regiments would provide its several battalions. Territorial titles might still be adhered to, but with a larger scope. Highland, Lowland, Wessex, East Anglian, Mercian, suggest themselves as examples. Although perhaps not possessing all the theoretical advantages of a general corps of infantry, a few large regiments of this kind would possess considerable elasticity. Such a system would, moreover, have the great advantage of making possible the absorption of the corps d'élite without arousing serious opposition. The Brigade of Guards, for instance, would itself form one group, the Rifle regiments another, and so forth.

Each group of regiments, or "super-regiment," would possess one large depot in place of the number of small depots at present in existence. In Peace this depot would raise and train recruits; also draft trained men to its own battalions at home and abroad. If the super-regiment were given a territorial title as suggested, it would be expedient that normal recruiting should take place within the appropriate area, with the assistance of a general "pool" provided by the larger cities. The present "Zone" system closely approximates this principle.

Then, as regards the provision of units to India and the Colonies, it would be possible to supply battalions according to the precise requirements of defence abroad, and to maintain at home precisely the numbers required for the Expeditionary Force and for internal security. The business of drafting personnel abroad would not be the direct responsibility of the home battalions, but would be undertaken by the



depot. Men posted abroad from the home battalions would first pass through the depot.

It should then be possible to develop progressively the training, organization and equipment of home battalions without being hampered by Indian requirements. If, in course of time, the home battalions should develop differences of organization or of armament from the "foreign" battalions, then reliefs should be carried out by personnel alone and not by battalions. If consequent changes in training were to become necessary for out-going or in-coming personnel, the depot should provide such training. It is not intended to convey the impression that it is desirable that our foreign battalions should differ largely from our home battalions, the reverse is the case, but small differences do exist already and mechanization and the introduction of anti-tank weapons may make a considerable difference between the two establishments in the future.

The super-regiment would also support Territorial Army battalions as at present. The depot would serve as a training centre for courses and as a link between the Regular and the Territorial units, but it would not be responsible for recruiting or the training of recruits for the Territorial Army. In War all depots would at once expand on a scale sufficient to maintain not only all Regular battalions but also all Territorial battalions in being. But the responsibility for recruiting would be removed from the depots to a central organization for national recruiting.

It has, of course, been recently laid down that the expansion of the National Army shall be carried out by means of the Territorial Army. This is virtually in accordance with the Cardwell idea, which visualized expansion not by means of the first-line Regulars but by means of the second-line Militia fed from the regimental depot battalion. But the problem of expanding the Territorial Army in war lies beyond this discussion of the Cardwell system, yet it should be observed that expansion and maintenance are two separate functions. One unit cannot perform both simultaneously. This fact is taken into account in the scheme outlined above: while the Territorial Army was expanding, the depots would be maintaining both the Regular and the Territorial Armies.

Finally, such a scheme of infantry organization would permit, in Peace, of the maintenance at home and abroad of the number of battalions which the needs of Imperial Defence demand, and, in War, of the expansion and maintenance of the National Army. The forces maintained would in either case be determined by military requirements, and not by an arbitrary system.



## STUCK IN THE MUD OFF THE NILE

*(The experience of a U-boat officer, Chief Engineer Koitsch, off Alexandria, in 1918.)*

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Translated from the "Marine Rundschau" of April, 1927, by

FLEET-SURGEON W. E. HOME, O.B.E., M.D., M.R.C.P. Ed., D.P.H.,  
B.Sc., R.N.(retired).

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WE were cruising submerged in about seven fathoms and the periscope was being trained round the horizon, making the usual observations, when suddenly came a voice from the conning-tower, "the cursed fellow is going to ram us!" Instantly, even before the periscope was down and other duties completed, the large deck ventilator was unshipped like lightning and the engine platforms fixed. Water was rushing into the trimming-tanks, gurgling as it filled them up to their necks, and the boat sank quickly even before we got the order to take her to fifteen fathoms. Both engines were going full speed ahead, the fore rudder was 10° "down," the after rudder to "up"; so her fore end dipped.

"What was that: a shock?" Few noticed anything, but five seconds later the boat suddenly shudders. Those are depth charges, and bursting quite close too. The Chief Engineer calls out, "We're on the ground"—his gauges have shown the fact. From the conning-tower comes back, "Impossible," and again depth charges burst close to the boat; this time they shatter almost all our lights so that everything is in gloom, and when the emergency lights are put on the gauges show us seven fathoms.

Meantime the engines have been stopped, but too late, they have driven the boat's nose well into the claggy mud: we are fast and no mistake. Well, we do need someone to give us good advice, for what can we do? There is no doubt, too, that everything the English can collect in the way of patrol boats will soon be busy over our heads. How are we to break loose without coming to the surface, which would be suicide? The boat is examined to make sure she is not leaking anywhere—the worst thing that can happen to a submarine—and after a while there comes from aft a report that there is more water there than usual. Our electrician dashes past into the engine-room and climbs over into the bilge, being anxious lest his precious engines should get wet. In a few minutes he goes up to the Captain, saying "We must put on the bilge pumps." Easy enough to say, easy enough to do in ordinary times, but as we are, we have to remember that if we pump

bilge water out now we shall make a film of oil on the surface that will betray our position, even in the dark, especially on a moonlight night when every oil patch is recognizable, as it makes the sea surface exceptionally smooth and, at the edge, gives a play of every kind of colour. Well it must be risked, cost what it may, for we shall be in worse case if our motors are put out of action, and so we choose the lesser evil. We must get away from our present position in any case.

Two exhaust pumps are set to work, and in eight minutes comes the report from aft, "Engine bilges dry." The pumps are then connected to the trimming-tanks in order to discharge some thousands of gallons of water and give the boat enough buoyancy to set her afloat again. But we can't risk breaking surface, and, the moment she begins to rise, water must again be let into the tanks to check her. So all the pumps are set to work: an anxious moment: an iron calm reigns within the boat, and outside her too. Suddenly a hellish noise breaks out, a thunderous din, depth charges and aerial bombs! With their submarine sound-detectors the English have picked up the beat of our pumps and have learned where we are, and are now dropping hundreds of bombs into the depths. But we have unspeakable luck!

Fast in our unwished-for anchorage, we wait: our iron discipline keeps anyone from losing his head; the hard school of the submarine service has taught us all how to conduct ourselves in such emergencies; the utmost quiet reigns and the crew stand ready for any order. After ten minutes all is quiet again, the hell's game has finished. Within the boat all machines are stopped, there must be no sound, and we hear nothing but the hum of the gyroscope compass whose motor has done its duty busily all our cruise, running at 20,000 revs. a minute. We decide to stop even that. Minutes pass and we hear nothing. Perhaps the English think that, torn into a thousand pieces, we are buried in the holes they have blown in the mud. There is an occasional sigh of relief, nothing more; hardly anyone speaks. We all want to get free, above all to get fresh air, for it is suffocatingly hot, but still we wait. An hour passes, and we hear the noise of the screws of the English ships, cruising over our heads. They seemed to be waiting, for the dawn will come in three hours' time; but we have no intention of their finding us here then. All current users have been cut off but our accumulators are giving out; we have been nearly twenty hours under water, yet we wait another twenty minutes.

Then we decide to make our last attempt. In spite of the buoyancy we have given her, the ship still remains fast. We try again, the same method as before, but again we have no luck. Only one chance remains, to try with compressed air and chance what may happen to us on the surface. There is nothing else to do: if we succeed, to God's mercy will we owe it. When all the diving apparatus is manned we hear the Chief Engineer's orders, "Compressed air in Tank IV" (the foremost one); after two seconds, "Compressed air in Tank III"; in another

wink, "Tank II"; and lastly, "Tank I." All valves to the compressed air distributors are now open. "Both engines, Slow Astern." "Half Speed Astern." "Both engines, Stop." "Port engine, Half Speed Ahead; Starboard, Half Speed Astern"; "Forward rudder, hard down; after, 5° up": such were the orders in quick succession during those fifteen seconds. The boat moves,—it is under control! These efforts are continued; the gauges fall; at last the boat has worked herself free forward; she is rising rapidly, nose upward. That must be stopped or she will soon reach the surface: but, at least, she is under control. The trimming-tanks have taken in tons of water, and, under the protection of darkness, no one has seen us.

We maintain a depth of six or seven fathoms. For twenty long minutes we keep a course over the ground, away from the coast, then only do we rise to periscope depth: five fathoms. Carefully the periscope is raised and observation taken all round. Visibility is good, there is nothing in sight, so "Ready to Emerge" is the order, and we set our gyroscope going again; it begins to hum, but will be of no use to us for four hours, as it takes all that time for it to get up to its normal speed. The English are apparently tired and, believing they have destroyed us, have gone home to bed. We are in such a hurry for fresh air that the routine for equalising pressures before opening the hatch are on this occasion forgotten; the securing screws of the lid of the conning-tower are cast loose, and the hatch flies up, the high pressure within the boat blows it up; the escaping air whisks the Captain's hat off and blows him after it through the hatch. What a pressure we have been enduring!

One reads relief on the faces of all and the thought "we have come through all right." Fresh air swishes through the boat, one does not merely breathe it, one drinks it in as if never to let it go again; it is a sensation that cannot be described, but must have been lived through to realize. Both oil engines get to work forthwith, and in a hand's turn all the anxieties of the last twenty-four hours are forgotten. We are not out of the danger zone; it is dark around us, but the exhaust of our Diesel engines can be heard a long way, and the lightning flashes about us might easily show us up. In another hour all that is past, and the men, with great sighs of relief, leave their fighting stations. Everyone looks happy and, in the grey dawn, our hunger for smoke is satisfied as the watch off duty goes on deck, and the boatswain's pipe, "Stand easy; carry on smoking," lets us light up the excellent cigarettes we got in Turkey.

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## BUSH WARFARE AGAINST TRAINED TROOPS

By CAPTAIN H. C. T. STRONGE, D.S.O., M.C., The Buffs.

### I.—INTRODUCTION.

BEFORE the Great War the native troops of the several protectorates concerned in the tropical African campaigns of 1914-1918 were well grounded in the use of modern weapons and conversant with the commoner forms of bush warfare, but they had never been called upon to measure their skill against an opponent of their own standard in that nature of fighting. Their officers, seconded from the British Regular Army, were similarly situated, so that from the very outbreak of hostilities, they were forced to adapt the training received in England and India to the conditions of the African bush. This lack of experience inevitably led to divergences of method, and it was not until the lapse of many months that some standardization of organization and tactics became possible. Strategically the problem was even more complex, as apart from the fact that no very definite plans had been prepared in peace, the difficulties of conducting a campaign with small forces in a country of very limited communications and great distances restricted the means of concentration, inter-communication and maintenance.

To-day the experience gained in Togoland, the Cameroons and German East Africa is as varied as it is complete. Our task is now to ensure that those lessons should be turned to good account in any similar campaign of the future. To many it might appear that a war between European nations should not extend to their colonies and protectorates, as this must involve the native races in a war which is neither of their making nor in any way advantageous to them, while lowering the prestige of the white man in their eyes. To others it would seem that, with the passing of German influence in Africa, a recurrence of such a conflict is most unlikely, if not impossible. It is, however, not proposed to analyse these contentions. Let it be pointed out that there exist in most parts of tropical Africa controlled by Europeans, harbours, coaling stations and wireless installations, which intimately affect imperial strategy, while the immense African resources in food-stuffs and raw materials are growing in value. Lastly, it must be remembered that the continent is still in part controlled by no less than six European nationalities.

## II.—PREPARATORY MEASURES.

The initiation of a campaign in bush country always presents peculiar difficulties. In the first place it will not be possible to make plans in peace for more than the opening stages of the conflict which must be carried on by local armed forces, while the nature and degree of future reinforcements must remain unknown until events in the main theatres of war have become clearer. The numbers of troops available will in turn, depend upon the progress in the main theatre of war, whilst the strategy and scope of the lesser (African) Campaign depends upon the reinforcements to be expected. Command of the sea may therefore be the determining factor, and the belligerent able to augment his overseas garrisons the more speedily will be the better placed for the assumption and retention of the initiative. From the local point of view this must prove of immense advantage, and, provided that a decision is rapidly attained, can assist in the conduct of the war as a whole. If, on the other hand, as in German East Africa, operations become protracted, the forces detached from the main theatre will be much larger on the side of the attackers, a contravention of the principle of economy of force.

The first essential is to acquire detailed knowledge of the enemy's country and resources in peace time, and to examine carefully alternative plans of campaign, so that the most appropriate scheme to meet the situation may be adopted on the outbreak of war. The African campaigns of 1914 all brought to light the inadequacy of the information with which the belligerents commenced operations. In some cases handbooks, supplemented by reports collected from various sources, had been prepared, but often these were found to be so inaccurate or out of date as to amount to a hindrance rather than a guide. Certain features common to all uncivilized or semi-civilized countries are of special importance, and these at any rate can be studied beforehand. Amongst them may be mentioned the attitude of the local inhabitants towards their European masters, their loyalty, their fighting potentialities and the effect of climate upon operations.

Again, the forces engaged should be organized in the manner best suited to the needs of an African campaign. Improvisation is a process in which we, as a nation, are particularly practised, but it is uneconomical in material and time; it should, therefore, be avoided. Cut-and-dried methods of administration, supply and inter-communication are best, provided they are not too rigid and able to function in face of an emergency. Supply problems are always acute in the bush owing to the length of the lines of communication. The latter, again, are highly vulnerable and hampered by the preponderance of human carrier transport. The East African campaign unexpectedly revealed the scope of light lorry transport which was able to perform much second line work, even in virgin bush. Nevertheless, with dismounted troops first line transport would to-day consist of carriers. In the Great War the



necessity for the permanent allocation of their own first line to units became apparent as the campaign progressed. Accordingly, if coloured troops are landed from overseas they should, if possible, arrive complete in this respect, as it simplifies organization and reinforcement, and produces harmonious working by eliminating complications of language and rations.

In so far as the composition of an invading force is concerned two factors are pre-eminent. Firstly, there is a need for considerable superiority in numbers. All our experience in small wars goes to show that, other factors being equal, this is essential to success. Secondly, there is the need of mobility, which indeed possesses special significance in the bush since it overcomes, to some extent, the obstacle of distance. Although paramount in importance, this condition is the hardest to satisfy as cavalry is restricted to areas devoid of tsetse fly; while tanks and armoured cars are, as yet, hardly suited to general use in the bush. The latter proved of great utility at times in German East Africa but only in a subsidiary role; in real bush country their sphere of action was most limited. This need for mobility is at present only to be satisfied by lightening the load of the infantry soldier and by training him to a very high standard of marching.

### III.—STRATEGIC.

In bush campaigns one of the belligerents will, in all probability, and at a comparatively early stage of the war, be thrown on the defensive in its wider sense, since the addition in strength of a few thousand men will suffice to turn the scale of power definitely in one direction. When this state of affairs has arisen—and it should be clearly foreseen in time of peace—the object of the invader in respect of the war as a whole will be to conquer or neutralise the enemy's harbours, bases, wireless stations, as well as to defeat his local forces as rapidly as possible. The primary object of the defender must be to cause his adversary to expend the maximum number of troops in the prosecution of his plan, while protracting the campaign to such a degree as to compel him to make an uneconomical, and if possible permanent, diversion of force from the main theatre of war.

In so-called "side shows," where operations are undertaken with a view to seizing some definite locality of strategic import, such as a harbour, railway junction or source of supply, the enterprise is apt to grow out of all proportion to its value. Mesopotamia furnishes an excellent example of this risk. The question, therefore, arises as to how far it is possible to restrict offensive action against an enemy's overseas territories, while ensuring, on the one hand, that all important points are held or neutralised, and, on the other hand, that the forces despatched on such a mission are not disproportionate to those of the enemy. In the Cameroons during 1914-1915 our troops which consisted almost entirely of native Africans (British and French) were, after a time, considerably

superior in numbers to those of the Germans, but this superiority was not in undue proportion and hardly robbed the main theatre, France, of any effectives except perhaps of a very limited number of British officers. In spite of this the country was, within eighteen months, completely wrested from the enemy, whilst his troops were defeated in battle or driven into Spanish Muni. These results could not be attained more quickly owing to the size of the country. On the other hand, although the enemy fought stubbornly and gallantly on many occasions, the fighting as a whole, and the leadership in particular, was not of the same high order as that encountered in East Africa. There is little doubt that a von Lettow would have endured much longer.

A study of these two campaigns confirms the theory that to restrict operations to the attainment of a few important strategic objectives is impracticable. It cannot be said, for instance, that we should have been content to establish ourselves on the defensive round the harbours of Tanga, Dar-es-Salaam, Kilwa and Lindi in German East Africa, and for the rest protect our frontier of Kenya. It would have taken more than the recruitable man power of the latter colony to attain even this object successfully, apart from the adverse effect of a continued defensive policy. Neither were these ports within supporting distance of one another nor within the radius of action of a mobile sea-borne reserve. Had we delegated the neutralisation of the ports entirely to the Navy and disposed our military forces upon our frontiers, the enemy, with complete freedom of action and the resources in men and supplies of his whole colony to call upon, could have penetrated at any desired point and dealt with our posts in detail. As von Lettow himself points out—and he was, in the first instance, concerned with the protection of his own frontier—a defence of this nature can only be undertaken with the maximum of local offensive action. If there are no suitable objectives within striking distance, there is no object in this policy and a form of passive defence becomes inevitable. The proximity of the Ugunda Railway made it possible in von Lettow's own case.

It is possible that in other theatres of war operations might have been restricted at the outset to certain limited objectives, but in bush country such a policy could never succeed because the whole man power of the enemy's colony is available to deal with any incursion. It follows, therefore, that until the enemy's local forces are defeated and cease to menace our frontiers or our operating columns, the campaign must be fought out. There can be no half measures, since the difficulties of dealing with a mobile enemy acting on interior lines in the bush and capable of supplying himself from local resources are extraordinarily acute owing to the lack of natural communications and the power of evasion which he enjoys in such country. To achieve decisive success there remain only two possible courses. Either we must defeat the enemy's main forces in battle or we can prevent him carrying on the war by cutting off his munitions supply. With regard to the former, the best way in

which this can be effected is by forcing the enemy to retreat and gradually concentrate in the face of simultaneous advances from a number of directions, for only an unskilled enemy would permit himself to be defeated in detail in a country where little or no restriction is placed upon his movements. The formation of several columns, however, entails the employment of large numbers of troops, as each must be sufficiently strong to stand against any likely combination of the enemy. It further entails the establishment of several lines of communication with bases, depots and protective detachments. An invader advancing from his own frontiers in several parallel columns may achieve the result of manœuvring the enemy out of a large portion of his territory at comparatively little cost by means of exploiting success where resistance is weakest and by out-flanking movements, but this method lacks the power of bringing the enemy to battle against his will and causes an undue lengthening of communications. Here again, individual columns must be of a strength sufficient to cope with considerable hostile concentrations unless they are within mutual supporting distance of each other.

The most effective and economical method of conducting the defence in bush warfare of this nature is the adoption of guerilla tactics, as small columns are easy to supply and compel the enemy to disperse his forces over a wide area. Furthermore, raids upon his communications will hinder the enemy's advance and may be a source of replenishment to the defender. Two of the requirements of successful guerilla warfare are extreme mobility and skill in breaking off engagements. The columns of the invader will be opposed by self-contained detachments of sufficient strength to be able to cause a general deployment on his part and, after inflicting considerable losses on him, retire at will in any given direction, independent for the time being of communications. If it is desired to delay the enemy for a longer period in some locality, the detachment will be reinforced by a reserve detachment brought up for the purpose.

Once the blockade of an enemy's colony has become effective, the only means open to him for the maintenance of munition supplies in that region, when his stocks run low, are local manufacture or captures from the opponent. The latter source of supply can only be stopped by the skill and bravery of our own troops, who must realise the immense value of booty of this nature; they must be taught that it is a point of honour to destroy whatever cannot be removed. The manufacture should be impeded at all costs. Exact information is necessary as to the localities in which such manufacture is possible and of the defensive measures adopted for its protection. Offensives should, if possible, be carried out in the required direction, which will force the enemy to concentrate in order to cover his factories. In addition, the maximum use can be made of air raids and of the raids of small mobile columns behind the enemy's front. Unless the enemy has precise information

as to the nature of the latter and the direction of their advance, he will be hard pressed to counter them. Raids of this nature can, of course, only be undertaken when the general offensive has progressed within a reasonable distance of the objective, while they presuppose good intelligence and reliable guides, but the results at stake may be such as to justify taking considerable risks.

Such is a general outline of some of the strategic problems which may arise in bush warfare against trained troops, but before leaving this topic it is necessary to refer to two factors which will dominate the whole campaign and determine largely the moves which are undertaken, regardless of other considerations. These are climate and disease. Most of the African possessions of European powers vary in nature to a considerable extent within their own boundaries. They contain mountainous regions, large open plains, park land, bush and dense forest, upland rolling country and low lying swamp, fertile and non-fertile areas. As a general rule the rivers are large and far between. Their tributaries, except a few of the larger, are generally quite waterless in the dry season, while rising quickly and suddenly after rain. The climate, of course, affects all these features and conditions to the extent that operations on a large scale are only possible, in many parts, during the dry season owing to the obstacles formed by rivers and swamps and the impracticability of maintaining the lines of communication in a fit state for transport during the rains. Conversely, in the dry weather the number of troops that can operate in any locality is often limited on account of the scarcity of water.

In regard to disease, warfare in the tropics is bound to take a heavy toll of Europeans on both sides, and under circumstances of abnormal privation native casualties from this cause will also be considerable. Although the invader will be less heavily handicapped than his opponent on account of his ability to replace casualties, it will always be incumbent upon both commanders to formulate their strategy with this factor in view. In extreme circumstances the loss from sickness may become decisive.

#### IV.—TACTICAL.

In the Cameroons and German East Africa many important engagements were fought under conditions approximating to "open warfare" while others took place in dense forest. It seems best, however, to restrict comments to the fighting carried out in so-called "Orchard" Bush, that is, where a man can move comparatively freely in any direction, but where the field of view is limited. Its density varies considerably in different localities and the seasons affect the nature of the undergrowth. Generally speaking this type of country covers the largest area in tropical Africa and was the principal battle ground in the above-mentioned campaigns.



Certain features in this kind of fighting are so far the rule rather than the exception that they fundamentally affect the conduct of every battle. Although they may not all be found in any one engagement, it is possible to summarize them as follows:—

- (1) Lack of detailed information as to the enemy's strength and dispositions ;
- (2) Close proximity of opposing forces at the outset, owing to the restricted field of view ;
- (3) The difficulty of maintaining touch and direction when deployed ;
- (4) Great vulnerability of columns on the march ;
- (5) The difficulty of obtaining good gun positions and observation for artillery ;
- (6) The comparative invulnerability of reserves a few hundred yards from the firing line.

For reasons of space bush tactics cannot be studied in detail under the headings of protection, attack and defence ; but two of the most important lessons of the late war must be examined.

The first is the value of flank attacks. With the small forces normally engaged in bush warfare, defensive positions are seldom of great extent, nor are they as a rule highly organized in depth. The reasons are that the blindness of the country renders it impossible for posts to afford each other the same degree of support as happens in open warfare ; also because machine-guns echeloned in rear cannot cover the gaps. Further, there is seldom time or material available for the construction of elaborate defences, which indeed may never be assaulted if the enemy can achieve his object by turning the position or by placing himself astride the line of communications. The system normally employed is to hold a position consisting of a line of posts, relying on its ill-defined nature and concealment to confuse the attackers. Local reserves are employed to restore the situation when ground is lost. In view of the annihilating effect of machine-gun fire at close ranges, purely frontal attacks aiming at penetration can seldom be pushed home with sufficient force or on a wide enough front to withstand a sudden counter-attack. If it were possible to penetrate at several points simultaneously, decisive results might be obtained, as the enemy's reserves cannot be everywhere ; but experience has shown that the difficulty of co-ordinating these attacks in the bush and the lack of adequate artillery and trench mortar support generally stand in the way of success. The tactics which led to the most decisive results in the late war were based on the principle of pinning the enemy to his ground frontally and in sufficient strength to threaten penetration and instant exploitation of a withdrawal, whilst the main attack was delivered round one of his flanks. The whole essence of these flank attacks is that they should be pushed home in rear of the enemy's line, if possible against his reserves or at any rate so as to draw off the latter from other parts



of the front. If the attack succeeds, the troops in the front line must retire or submit to complete envelopment. These tactics demand bold leadership and good bushcraft so as to obtain the maximum surprise effect. In theory they may appear unsound, as they involve dispersion of force and might conceivably lead to defeat in detail if the enemy is reinforced unexpectedly; in practice, however, they succeed more often than not, and the facility afforded by the bush for breaking off an engagement when things go wrong is a great asset.

An attack directed against the actual flank of the enemy's line, either obliquely or in enfilade, will usually meet with considerable opposition, as it is easy for him to refuse his flank and the attacking force is then liable to be subjected to the full onslaught of the enemy's reserves on its own flank—a frequent occurrence in East Africa.

The second lesson, is the advantage of what may be termed elastic defence over perimeter defence. It was the practice with many formations in East Africa, when attacked by a force which appeared to be equal or somewhat superior in numbers, to dispose their troops so as to face the front and both flanks; then, when the remainder of the column had been collected, to close the rear face and form a perimeter. This possesses certain advantages if the line is not too thinly held, as it imposes upon the enemy the necessity for launching a frontal attack, since there are no flanks which can be turned. It also affords adequate protection to such transport and carriers as may be accompanying the column and permits of rapid reinforcement of any part of the line which may be hard pressed. Furthermore, it is likely to prove costly to the enemy who, finding himself checked at one point, will probably deliver a series of attacks from different directions in the hopes of locating a soft spot. The disadvantages are that the initiative rests almost entirely with the enemy, the defence becoming purely passive. Counter-attacks are in the nature of a sortie and very difficult to launch owing to the inability to manoeuvre in such a restricted area and the uncertain nature of the objective. There is also little scope for the employment of artillery and trench mortars. If the enemy is sufficiently strong, the force may also be surrounded and cut off for an indefinite period. This is especially serious if either supplies, ammunition or water are scarce. The attackers, on the other hand, can break off the engagement under cover of darkness, if not earlier.

Unless it be the policy to fight a purely delaying action for the defence of a defile, or for some other reason, the defenders will always hope to resume the offensive at the earliest moment and to turn on the enemy and defeat him by counter-attack when his thrust has failed. The perimeter form of defence can seldom, if ever, achieve this against trained troops. It will, as a rule, be found more advantageous to take up the best frontal position which can momentarily be obtained, seeking strength by means of automatic weapons, and to keep ample reserves in hand to deal with the enemy's outflanking movement. A small

perimeter camp can be formed for transport within the position; if time permits this will be entrenched and protected by its own escort with some automatics; but it must be of sufficient strength to repel the attacks of small hostile parties which may succeed in eluding the reserves. The alternative is to send back all transport, other than ammunition, at the outset, although there may be a risk of its encountering other bodies of the enemy and being unable to rejoin the column when required.

These are, in fact, but a few of the tactical problems presented by this type of bush warfare. Other questions of a like nature will present themselves and must be met on similar lines of reasoning. The effect of mechanization might also provide an interesting discussion which space forbids. As matters now stand the bulk of the fighting falls upon the infantry and their automatic weapons, whilst the bayonet is still an important factor in battle. This state of affairs seems likely to hold good for a considerable period to come.

#### V.—CONCLUSION.

If this country at any future date becomes involved in a war with another European Power possessing colonies in tropical Africa, these outlying lands will of necessity once more become the scene of fighting. It is growing more and more unlikely that operations would be restricted to the capture of harbours or fuelling stations. Hostilities will continue until the opposition of one side has been overcome and his territory taken by the invader. Fighting in bush country against trained troops may thus be said to have become a definite form of warfare, possessing characteristics of its own. Our local African forces would in such an event form the bulk of the fighting strength. They must consequently be capable of rapid expansion so as to provide the numerical superiority required by the aggressor. It is also necessary that the officers who are to lead these troops in battle should either have acquired experience in the type of fighting that is likely to ensue, or else they must be in a position to learn its peculiarities, without any delay, on the strength of a previous study of the African campaigns of the Great War.

## PIGEONS IN THE GREAT WAR.

By LIEUTENANT-COLONEL A. H. OSMAN, O.B.E.,

(*Late O.C. Pigeon Service, G.H.Q., Home Forces*).

PRIOR to the Great War both the Army and Navy had made experiments in the use of pigeons and discarded them owing to unfavourable reports. The war showed that that decision was a mistake; but it proved also that to obtain successful results with these birds as messengers the service must be in the hands of experienced technical breeders and the lofts must be in charge of men possessing long experience of breeding, training and handling pigeons. Without this practical knowledge the birds will never give good results.

When war was declared in 1914 all pigeon lofts in Great Britain were visited and birds compelled to fly out. This removed the danger of their use to carry messages over the water, and police permits were then issued to all keepers of flying pigeons; 355,000 permits were so issued. It is possible that in peace time, keepers and breeders of pigeons in the United Kingdom may number quite two million.

One hundred thousand pigeons were used in the war on all fronts. These were bred and given to the Service by the owners and breeders without charge of any kind.

The selection of the birds must at all times be left in the hands of experts, because it takes many years of study to become a successful breeder and judge of this class of stock. Not a single bird left England to go to the front unless it had been examined and passed for service by O.C. Pigeons.

Pigeons will only fly to their objective and loft; they cannot be "sent" a journey. But lofts can be moved and the birds quickly taught to find them in their new position. Thus a large stationary loft containing 200 birds was moved from Harwich to Felixstowe and in ten days after its removal the birds were at work flying with messages from seventy to eighty miles over the North Sea to Felixstowe.

The Navy was the first to make use of pigeons in the war. It was found that trawlers used for mine sweeping had no means of reporting their work, many of the craft not being fitted with wireless. Volunteer pigeon owners were then called upon, and birds were at once put in training with the result that valuable information was often carried from these craft by means of the birds. Thus when the first Zeppelin attack took place it was made upon a fleet of trawlers at work in the

North Sea when mine sweeping. The message describing the failure of the Zeppelin to gain its objective was sent by means of one of the writer's own pigeons called "Sweeper's Hope"; it described the attack by the Zeppelin on the mine sweepers and reported that all were safe.

The reliability of pigeons is very great, as an example of this one may quote the fact that one bird, "Little Hope," made no less than 153 journeys between the North Sea and the Coast from 1916 until the end of hostilities, never once failing to deliver its message. Since the end of the war, "Little Hope" has been flown in many races, including the 430 miles race, for eight years in succession; she has won hundreds of pounds in prizes, is twelve years old, and as one of the survivors of the war has now gained her pension.

Many aviators' lives were saved by pigeons when their machines were hopelessly down in the sea. For instance, Pigeon 104 N.U. 17 G.P.S., Blue Chequer Cock, on one occasion saved the lives of pilot and observer. The bird seemed to know the importance of its message and flew twenty miles in twenty minutes. This message was the sole means of saving these men's lives. In 1919 the Air Ministry issued a list of some hundreds of birds that had performed meritorious services during the war.

In connection with the land forces they proved invaluable when flown from tanks. In fact, when the tanks were in advanced positions pigeons very often proved the only means of communication and carried valuable information to the base. For intelligence they were also most valuable and must prove so in the future, as they carry their messages silently and leave no trace of their flight. They can be liberated at night and will home early to their lofts next morning—or can be trained to fly at night to night lofts specially constructed with a red light to guide them, but the danger of these illuminated night lofts is that enemy aircraft may observe and attack them.

During seven months of 1916 one military loft in France received twenty-four pigeon messages from airplanes which had been captured or which had met with disaster of some kind. These messages contained the last observations or told the fate of between forty and fifty airmen.

It was no mean performance to carry fairly large documents such as photographs or passports over the enemy lines, but the writer found by experiment that by threading small wires through the outside feathers of the tail and fastening the package under the tail quite a decent sized plan or package could be carried.

When it was decided to drop agents from aircraft by means of parachutes over the enemy lines with a basket of pigeons, the difficulty of avoiding injury to the birds was overcome by packing the birds in paper and tying string round their wing butts, again packing them in straw in a basket strapped to the man's back like a fisherman's creel. We lost only one man in this venture, he and the pilot having crashed; yet they lived long enough to release their birds. At first the agents

who had been instructed to jump from the aircraft when in position lost courage and would not leave the aircraft, but eventually they were forced to jump and had no opportunity of refusing, as a sliding bottom was made to the aircraft which opened on the release of a spring by the pilot and the man and his pigeons were let loose, the parachute opening and working automatically as it was strapped in position.

Much of the work that could be performed by pigeons in the future cannot well be foreseen. Even though wireless is making great strides, and beam wireless may be further improved, it must always reveal some form of activity, whilst successful efforts are being made by clever inventors to block its use when desired. Pigeons may therefore still prove of value. For this reason encouragement should be given to the pigeon breeder in the production of these birds. The war proved how unnecessary it is for the Services to maintain an established pigeon service in peace time. The whole service on mobilization can perfectly well be created and staffed from the great body of pigeon fanciers who in the future will assuredly render the same services as in the past.

All pigeon racing in France is under military control. No foreign pigeons are allowed to enter the country except for racing and immediate liberation in the presence of the police. This step is taken to avoid pigeons being imported and secreted by agents in whose hands they might prove a danger. Permits are issued to all pigeon keepers and foreigners have great difficulty in obtaining permits to keep pigeons in that country.

No finer example of courage on the part of a pigeon can be quoted than that of No. 2,709. This pigeon was in the action fought off the Menin Road on 3rd October, 1917. She was dispatched with a message from the front line to Divisional Headquarters, nine miles away, early in the afternoon. How far she had gone on her way when she was hit by a bullet which broke one of her legs and drove the message carrier into her body we do not know. Hours passed. Night came on with rain; and when 2,709 did not return to her loft, she was given up for lost. But she was not lost. She was not dead. She had lain out in the wet all night and in the grey morning, with plumage wet and bloody, she fluttered into the loft, and died before the officer on duty could read the message she had brought. No. 2,709 is known as the V.C. pigeon.<sup>1</sup>

When Commandant Raynal was surrounded at Vaux there were times when pigeons were his only means of communication with Verdun. His last bird but one flew in through a terrible enemy fire and received the Croix de Guerre. His last bird, body mangled, dropped dead as it came in to deliver his message. It was awarded the Legion d'Honneur, and a diploma framed in the colours of the decoration and bearing a brief and dignified citation was hung at headquarters in Chantilly.

<sup>1</sup> This pigeon is preserved in the R.U.S.I. Museum.—EDITOR.



Here is a typical carrier pigeon war story. Somewhere on the North East Coast of England night was approaching under a drizzly mist, while a raw wind ripped land and sea around the lonely group of buildings forming a Royal Air Force station. It was tea time and a welcome hour too, when a bell rang. A pigeon had come in. A N.C.O. set down his cup of tea untasted and opened the door leading to the pigeon loft. From the corner, where it had huddled, he lifted a blue hen pigeon, 376 S.N.L. 14, very wet and bedraggled, skilfully removed a small aluminium cylinder from its right leg, slipped the bird into a pigeon basket and carried it into the mess room. The message read, "Machine wrecked and breaking up, 15 mi's S.E. of Rocky Point. Send boat." Darkness had fallen, and, out at sea, two men wet and chilled still clung to a wrecked seaplane. They had little hope that their message had been delivered, or, even if it had been, that help would come in time to save them. The wind had risen and the waves were gradually tearing away portions of the wreck which sank lower and lower into the water. At last there came a sound—the sweetest music they had ever heard—the siren of a motor boat. Again and again it sounded, each time nearer; then the bewildered men arose and sent up a wild shout in answer, and a hissing bow shot towards them from the darkness. They had been in the water twelve hours. On the top of a little basket by the fire in the mess room sat No. 376 quietly preening her damp feathers. And the next morning the British papers reported: "Seaplane N.64 lost in the North Sea, fifteen miles Southeast of Rocky Point. All the crew were saved."

As a pigeon fancier and breeder of long-distance racing pigeons, one cannot help being proud of the work pigeons did in the Great War. The work was entirely voluntary, and some day I hope to write the story in full, but so many painful incidents and the loss of so many old friends are associated with the service that I hesitate to start.

## CORRESPONDENCE COURSES.

By CAPTAIN G. MACLEOD ROSS, M.C., M.Eng., A.M.Inst.C.E.,  
Royal Engineers.

"It is the duty of Senior Officers with their greater knowledge and wider experience to encourage and guide their juniors in their individual studies."—*Training and Manœuvre Regulations, Section 8.4.*

IT is not proposed to enter upon a consideration of the contentious question of study to gain wide knowledge *versus* study necessary to pass examinations. Whatever ideals may be held, the fact remains that examination, whether written or oral, continues to be the accepted test for eligibility for promotion up to field rank, and in consequence of this fact, the majority of officers will be spurred to work solely from a desire to pass the examination.

Now, in a combatant unit there is no doubt that it is a comparatively simple matter to follow the precepts of the Training and Manœuvre Regulations, not only because all the officers concerned are for the most part, living under one roof, but because their daily routine invariably leads to a joint consideration of the principles and problems which form their individual studies for examination purposes.

Furthermore, in a unit there are usually officers available to take certain forms of duty on behalf of those who are released therefrom in order to have greater time for study. It is not uncommon for an infantry unit to have sufficient officers to be regularly able to excuse from all lesser routine duty for a year or longer an officer competing for the Staff College Examination.

These very great advantages to individual study, namely, tuition and time, are not available for the large number of extra regimentally employed officers to be found in every command, belonging mainly to departmental corps, and also numbering many officers of the Royal Artillery and Royal Engineers. Nor can it be said that these advantages are enjoyed by the officers of the Territorial Army or of the Supplementary Reserve. Quite recently officers of the Territorial Army were excused the written examination for promotion and the reasonable inference is that owing to the handicap of lack of time and tuition, these officers could not be expected to sit for the examinations in question.

In the matter of time, the extra regimentally employed Regular, Special Reserve and all Territorial Army officers are concerned. They spend their working hours on tasks in which they will not be examined for promotion, and whilst the Territorial Army officer must give up

many evenings journeying to the drill hall where instruction will be dispensed, the regular officers are usually too scattered to permit of their being systematically assembled in one place by their respective senior officers. In consequence, all classes are thrown upon their own resources in preparing for examinations.

In a few cases, of course, it may be possible for scattered Regular and Territorial officers to find adequate assistance from some staff officer who possesses experience in imparting instruction. But such assistance can scarcely be relied upon and will, generally, be found to depend upon personal favour. In any case it cannot be regarded as a normal or certain system of instruction. Consequently, the officer who is serving away from his (regular) unit must fall back upon his own devices and initiative in order to prepare himself for examination. Now, whilst it is not contended that this is asking too much of the regular officer the fact remains, at any rate, that there is very considerable moral, if not material, advantage to be gained from some form of guidance by a senior officer. The real effect of the tutor or crammer lies very largely in his ability to appear to assume some of the responsibility for passing the examination. His encouragement gives confidence and his presence provides the spur which many people find necessary to make them concentrate and keep up to the mark.

For the past twenty years it has been felt that something should be done to remedy this want, and it has been urged that the "correspondence course" would be the best method by which these various scattered officers can be reached and given the necessary encouragement and guidance which others receive automatically, owing to their location and employment.

The method of teaching by correspondence courses has been developed in the United States Army, more especially to benefit the officers of the Reserves, who, unlike the Regular Army and the National Guard, possess no schools of their own. General Pershing is said to be responsible for the inauguration of these courses. Each of the nine corps areas, into which the United States is divided, provides courses for men within its boundaries, and so far, they have been developed in eighteen branches of the Service. Although the courses are open to detached regular officers, officers and men of the National Reserve or civilians, they are primarily meant for the Reserve officers. Consequently, they start with lessons for civilians wanting to enter the Reserve Corps as second-lieutenants, and carry a man up to the rank of major.

The procedure for a civilian wishing to enter the Ordnance Department as a second-lieutenant is as follows :—

He takes a number of lessons in the following subjects :—

- (1) Organization of the Army ;
- (2) Administration, discipline and compliments ;
- (3) Ordnance engineering ;

- (4) Military hygiene and first aid ;
- (5) Map reading ;
- (6) General information on ammunition ;
- (7) Property accounting ;
- (8) Ordnance provisioning system ;
- (9) Military law ;
- (10) Commercial law.

Each lesson is credited with a certain number of hours and a man must do a minimum of thirty-nine hours work a year. On the completion of the lessons he takes the correspondence examination and, if successful, is given a certificate of proficiency and rank as second-lieutenant, after which he is sent to a training camp for fifteen days. After each step in rank a Reserve officer must attend a training camp for fifteen days.

Out of 14,199 Reserve officers in the 2nd Corps Area, 2,310 are taking a course this year. In addition, in this area, there are 37 Regular officers, 51 National Guard officers and 117 civilians taking a course. All the Regular officers connected with the courses are reported to be very much in favour of them.

In Great Britain the correspondence course has, of course, been employed by the crammer. But in official life, as far as is known, this method of instruction has, so far, only been rarely applied to candidates for the Staff College Examination. Any one who has taken such a course knows what a very great benefit it confers. Suitably developed, to cover the several subjects on which papers are set in the promotion examinations, there can be little doubt that, from the candidate's point of view, it would be very helpful. The main difficulties which arise lie in the preparation of the course, and the setting and correcting of the papers.

It is, however, considered that the main value of the course would be derived from the papers set for solution and, therefore, it would be sufficient in most subjects merely to accompany each paper with a few directive notes to the published manuals. In *Tactics*, for example, a series of short papers setting problems in the several different operations of war would appear to be sufficient.

The subjects of *Organization* and *Regimental Duties in Peace* would, owing to the absence of a manual on peace administration and organization, give scope for some notes drawing attention to any recent changes which are so easily missed by officers extra regimentally employed, and by reference to the numerous pamphlets wherein certain information is contained.

*Military Law* is a notoriously difficult subject to teach by any means. Nevertheless, notes on the lines of those recently prepared by the Judge Advocate General's office for a course of lectures under the headings: Evidence, Preparation of a Case, Procedure at a Trial, the Law affecting Pay, etc., together with references to the Manual and

King's Regulations, undoubtedly would be invaluable to provide a framework of the subject. An opportunity also exists for drawing attention to recent important changes to the Army Act, whilst the experience gained in examining Court-Martial proceedings would enable the Judge Advocate General's Department to stress the points on which mistakes are most common. Subsequently, facility in finding references is only to be gained by having to search for the answers required by the examination papers set.

*The Essay.* Here again little is required in the way of notes and the practice gained in writing several essays which are criticised as to style is the main requirement. Some notes on analysis accompanying the first essay would not only give the candidate instruction in how to frame an essay on any subject but would also provide the lines on which the corrective criticism could be based.

*Military History and Imperial Geography.* Notes would appear superfluous in these cases and it would be sufficient to direct the various questions in the papers to bring out the most important features of the campaign and the more immediate problems of Imperial Geography.

The submission is, therefore, that these courses would mainly consist of a series of examination papers covering each subject and that any notes necessary would be of minor importance, save in the case of Military Law. The danger, therefore, of any savour of cramming is thus eliminated.

It would not appear that more than two sets of papers on each subject would be needed, after which they could be revised and brought up-to-date year by year, as conditions altered. The courses would be prepared and issued by the General Staff to Commands, as demanded.

The question of the correction of the papers is the one involving the greatest amount of work, and it is also the most important, if the student is to benefit to the full. To answer an examination paper is of value, but at least 50 per cent. of the value disappears if no correction is made.

Consideration leads to the belief that it would be possible to decentralize this onus of correction very largely. In the first place, it would be possible to limit the course strictly to those officers who were so placed that they could not reasonably obtain the assistance they could expect, were they with a unit, whilst all officers taking the course would give a definite undertaking to sit for the next Promotion Examination. Secondly, the correctors of the papers could be furnished with short stock solutions and references, reducing their work to little more than criticism of style and expression and the more obvious details. Finally, although the corrector of the papers would normally be the student's commanding officer, there could be no reason why he should not make a field officer under his command responsible for a proportion of the students.



There are three possible objections to the institution of such courses, but they should not prove insuperable. Firstly, there may be a disinclination to institute such courses on the plea that the proposal would entail the formulation of a too rigid system of tactics by instilling the idea that there exists only one correct method of solving a tactical problem. This tendency, however, obtains already under the present scheme of examination or of tactical exercises. A certain latitude should be allowed in the answers or, better still, alternative solutions or lesser variations should be allowed, provided they can be justified out of the training manuals. Secondly, the management of these courses may be objected to as trending too far on the time of the hard-worked General Staff in Commands, but it would, no doubt, be clear to most staff officers that these courses can in the end only be for the good of the Service and provide greater efficiency. Lastly and thirdly, it will be said that the scheme smacks too much of the crammer. So here the choice seems to be between allowing the candidates for these examinations to go to the crammer spontaneously, or to give them the assistance that they need direct from the fountain head of military doctrine. The latter is surely better. In any case, there must be one great advantage in instituting some system of correspondence courses. It will prevent the detached officer and the part-time soldier from feeling that he is handicapped, if not neglected, by the very fact of his isolation from the life of the regular officer who is doing duty with any normal unit or with the staff of any formation. That, at least, is very much to the good.

## CHINA: 1912-1927

By "TRAVELLER."

THERE are two outstanding difficulties in the way of any comprehension of the present Chinese situation. The first concerns the significance of the term "China"; the second arises out of the determination of the historic events out of which the actual crisis has developed.

To take these two points in turn. In the first place, it must be understood that, although "China" is a geographical entity with people similar in colour, in illiteracy, in their dependence on agriculture and irrigation, and in their suspicious attitude towards foreigners, yet these inhabitants differ in physical characteristics and in dialects to an extent which almost divides them into distinctive nations.

From earliest times external Asiatic forces have pressed upon China from the West and North. During the XIXth century European forces have lodged themselves in Canton, Shanghai and the Treaty Ports, while some twenty-five years ago Russia nearly effected an entry into China through Manchuria. Yet this pressure has but served to consolidate China geographically. But unity does not extend much further. In the realm of psychology no such homogeneity exists. It would be impossible to generalize on Chinese qualities or defects as we do on those of European races. British phlegm, German thoroughness, American idealism, or materialism, for instance, have no counterpart in China. It may be objected that Chinese honesty is a real thing; to this may be retorted that corruption in high places has nowhere been so shameless as it has been for years past in China. The virtue of honesty is no more universal than the vice of treachery; both are often in evidence. Again, in social matters we can speak of British parliamentary government, French law, German science; these terms if transposed to China become meaningless. We might, however, admit the existence of Chinese art; that is about all.

Now we come to our other difficulty, namely the date from which the story of the present crisis should start. Should this be from the

rise of the Han, Tang, Ming, or Manchu dynasties; from England's wars with China between 1840 and 1860; from the French war of 1884; from the Japanese war of 1894; from the Boxer rising in 1900; or the Washington Conference of 1921? Important though these and other events may have been, it seems that the present chaos cannot be considered as springing directly from these historical episodes; any attempt to attribute to any of the latter the germ of the present strife and anti-foreign mania cannot be sustained. It is thus necessary to take another date as our starting point, and we will select 12th February 1912, when the Chinese Republic was formally inaugurated on the ruins of the Manchu Monarchy.

The downfall of Russia, when "she fell upon the earth devoured alive, like Herod of old, by worms,"<sup>1</sup> dated from the end of Tsardom. So with China. Little good has come out of either country since their thrones crumbled away; and the truth is that China without an Emperor is like a man without a head. Through the centuries, oriental countries have had, and must have, a *head*—be he Pharoah, Sultan, Shah, Amir, Rajah, King, or Emperor. "Republic" is a word which conveys literally no meaning to nine-tenths of the inhabitants of China; such Western ideas lie beyond the understanding of the Chinese. It is the same with external affairs. Even now what proportion of Chinese know anything of the Great War? Ten per cent., 40,000,000, is a very high estimate. Would any larger proportion possess even an elementary idea regarding a Republican Constitution? Probably one per cent., 4,000,000, is not a very unfair estimate.

Everyone knows that one of the principal causes of the rise of Japan has been her wisdom in welding European progress and methods on to her own ancient traditions; also that her most important tradition has been loyalty to the Imperial Throne. The date, 11th February, is sacred throughout Japan, as marking the accession of the first Emperor, Jimmu, in the year 660 B.C. It is a melancholy coincidence that China should have selected the very next day in the calendar to destroy the one thing that gave her the status of a nation, namely the Dragon Throne.

Opinion is divided, both in and out of China, as to whether Yuan Shih-kai should have persevered in his attempt to restore the Monarchy in 1915 and 1916, even after the scheme had been compromised by his own candidature for the vacant Throne. The country, though a majority of the Provincial Representatives voted for a return to the old system of government—especially the Mongolians and Tibetans—could not agree to accept their President as Emperor, with the result that a revolution broke out early in 1916, followed by declarations of independence from several of the Provinces. Yuan was a proud man with no false modesty and gave up the struggle. To China's misfortune he failed to restore the Imperial House.

<sup>1</sup> Mr. Churchill. "The World Crisis, 1916-18." Part I, p. 225.

The present situation is that a considerable area of the world's surface, geographically but not politically a state, inhabited by 400,000,000 people, has for fifteen years been without a Government; further, that a very large proportion of the inhabitants, led by certain educated Chinese, whose learning, incidentally, has come principally from Russia and America,<sup>1</sup> have developed the always latent anti-foreign complex into a raging fever. These are the facts which stand independent of a variety of personal opinions—many of them contradictory. The only doubt concerns the percentage of (a) those who lead; (b) those who are led. Shall we put it at .01 per cent. and 1.0 per cent. respectively? It may even be a moot question, whether as many as 4,000,000 (1 per cent.) illiterate Chinese are prepared to behave as the Cantonese armies and local mobs recently behaved on the Yangtse, however skilful and successful in propaganda may be their forty thousand (.01 per cent.) educated leaders.

It follows that the solution of the problem, viewed either from Chinese or foreign eyes, is as difficult as its statement is simple. Let us look at the question subjectively, from the point of view of the Great Powers, basing our study on history. Although most of the greater historical events of the past may have but little relation to the state of China, they may be rich in lessons for the future, since they illuminate the conduct of the Yellow Man towards other races whenever contact has produced friction.

First, take ourselves. The East India Company was trading with China early in the XIXth century, and it was mainly to protect British citizens from Chinese lawlessness that the Government became involved in the so-called "Opium War," of 1840. Many historians condemn the war, as bringing no honour to England; but British statesmen of those days had to deal with a situation quite different to the days when Justin McCarthy, J. R. Green, Cyril Ransome and others denounced that action. In 1840, moreover, no telegraphic reports could be either sent or received; the outstanding fact was that British subjects demanded protection. It should be remembered, too, that the Chinaman's view of Great Britain was just as hostile before that war as it was at its conclusion. Owing largely to the influence of the Royal Navy the campaign proved successful, the arrival of our fleet under the walls of Nanking in the summer of 1842 being the deciding factor, and impressing the Chinese even more than either the combined operation resulting in the capture of Amoy, or the cession of the barren island of Hong-Kong.

Briefly, we fought for our trade and prestige, and in 1842, Lord Stanley, reporting to the Queen that a Treaty had been concluded with the Chinese Government, could state that "Your Majesty's Dominions are placed on a footing never recognized in favour of any foreign Power—a footing of perfect equality with the Chinese Empire."<sup>2</sup>

<sup>1</sup> Vide Speech by Sir Auckland Geddes.—*The Times*, 11th April, 1927.

<sup>2</sup> "Letters of Queen Victoria, 1837-1861." Vol. I, p. 441.

Between 1856 and 1860 the Second China War was fought. Opium was not mentioned this time, and the War, arising out of the seizure of the British vessel "Arrow" by the Cantonese, was chiefly for the maintenance of prestige and the sanctity of Treaties. Lord Palmerston, who appealed to the country on the issue, had the nation at his back. The burning of the Summer Palace at Peking, in 1860, as a punishment for the torture of a party of British, treacherously captured by the Chinese, may be condemned on some grounds, but it was at least a visible sign of our power; as such the Chinese appreciated it. They were compelled again to recognize that we were their equals and not their inferiors; and by drastic treatment (too drastic, perhaps, when viewed in the liberal light of the XXth century), we earned the respect due to us. "Since the infliction of this very salutary lesson our relations with the Chinese Government have been on a more satisfactory footing."<sup>1</sup>

Successful as this war proved in establishing our claim to be considered a strong Power, it would have been far less so had it not been for the fact that a trusty ally, France, joined us whole-heartedly in defending Western civilization rights. It is reassuring to think that in the emergency of 1858, insignificant indeed when compared to that of 1927, the two nations combined to show that we were prepared to uphold our legitimate interests by force after persuasion had failed. To-day, however, France's trade interests in China are far less than our own. At the time when Britain and France led the way in the Far East the United States were under the shadow of their approaching Civil War, and the dawn of the Meiji era had not yet broken in Japan.

One more event in Chinese history must be referred to, namely the Taiping Rebellion of 1864. This must recall that great Englishman, General Charles Gordon, whose name is perhaps more honoured in China than that of any foreigner, except Sir Robert Hart. It was he who helped the Chinese Government against the rebels during the civil war, which was causing so much misery. But Gordon discovered for himself the Chinese vice of treachery and in consequence indignantly refused a Chinese Government reward, although the treachery was directed not against him but against some of the rebels who had surrendered. Again, later, we may note that the French, in their single-handed campaign in Tonking in 1884, met with further examples of this treachery.<sup>2</sup>

Next, let us turn our attention to the two Powers who have most recently entered the field of Chinese international politics—America and Japan. We believe that America first encountered the Chinese problem when Chinese labourers came in large numbers to California during the pioneer days of the Golden State; and, if one is to believe contemporary

<sup>1</sup> "Our Navy for a Thousand Years." p. 341.

<sup>2</sup> "Small Wars," p. 50.



literature of that period, the Californians disliked the Chinese then at least as much as some of them now dislike the Japanese.<sup>1</sup>

The tide turned, and sentimentalism welled up in the United States, especially after China's defeat by Japan in 1895, and though Mr. Knox went so far as to propose the inter-nationalization of the Manchurian railways (to benefit China or to check Japan—who can say?), American missionaries and educators lavished praise on and sympathy for China. The climax was reached at the Washington Conference, when the Chinese Minister, Dr. Alfred Sze, once Minister in London, publicly proclaimed that the United States had "400,000,000 friends in China." As a serious pronouncement by an educated man, and a Chinese to boot, this statement might have created ridicule, yet it was accepted in all seriousness in America.

In consequence, it may evoke less surprise that recent events at Nanking should have caused no startling reaction in America. We may also remember that America possesses no Concessions of her own in China; her nationals live in those of other Powers. But there are signs that a change is coming, and that the United States may yet be found by the side of the British Empire. Lastly, there is Japan, who, when all is said and done, is most concerned about the present *and future* of China. It is recognized by none more clearly than the Japanese, that Japan's policy towards her huge, amorphous, neighbour has not been quite consistent. She fought and beat China thirty-two years ago; she played the leading part in the International Expedition to Peking five years later; she took a long lease of part of Manchuria and established a sphere of interest over the rest five years after that; and then, after an interval of another ten years, on 7th May, 1915, she presented an Ultimatum containing her twenty-one demands. As a result she, no doubt, succeeded in impressing the fact on China that she, Japan, was one of the Great Powers of the world. Whether China herself, or rather the small number of her nationals interested in the matter, also realized that her war with Japan was considered a "small war"<sup>2</sup> in the military acceptance of the term, and that she, China, was classed among the "savage or semi-civilized states" of the world, is another question.

Japan, having now presumably accomplished her aim, the problem arose—What next? In spite of the Anglo-Japanese Alliance, Japan and Great Britain have never seemed able to work in complete harmony in Chinese affairs. It is a commonplace that British merchants, although full of praise for Chinese commercial honesty, disliked their Japanese competitors. The British and Japanese Legations in Peking seldom appeared to be on those terms of warm friendship and common endeavour suitable to the representatives of Allies; and certain publicists delighted

<sup>1</sup> Vide a short story entitled "Mary," in H. A. Vachell's book "Bunch Grass."

<sup>2</sup> "Small Wars," pp. 21, 36.

in traducing Japan and holding up her policy to execration. Only a very small minority pressed for a logical and full development of the Alliance. No doubt there were faults on both sides; British firms said they could not compete against Japanese commercial methods and complained that the preferential tariffs on the South Manchurian Railway were not compatible with the principle of the "Open door and equal opportunity." The Japanese, on the other hand, resented being looked down upon, socially and politically, by the great majority of British residents throughout the Far East; they were irritated that even the normal reliefs of their Manchurian garrisons were regarded with suspicion. Finally, the end of the Alliance, euphemistically termed sublimation into the Four-Power Treaty, came as the culminating point in a continual lack of a common policy. Having failed to work together in China while an Alliance was in force, it seems almost hopeless to expect that the two Powers will do so now. But those who have striven in the face of great difficulties to maintain the "spirit" of the old Treaty, and discern an identity of interests, have not yet given up hope; it is believed that had the present crisis arisen while the Alliance was in force, the two Nations would have pursued a common path, in spite of past misunderstandings—for it was loyalty to the Alliance that ranged Japan on our side in the Great War.

Such, in brief, is the problem confronting the civilized world. There is one and only one solution: co-operation between the trustees of civilization. The ulcers of Russia, now spread to China, require combined treatment by all available physicians; individual remedies, proffered independently, in the hope that a cured China will, in future, employ the doctor who prescribed the least unpleasant physic, is a poor policy. "Negotiate, Negotiate, Negotiate," said Mr. Ramsay Macdonald to Mr. Chen; meaningless words, alas! addressed to a shadow, as many people knew then, and as all the world knows now. "Co-operate, Co-operate, Co-operate" must be the call to-day, not only to all the Great Powers, but also to those Chinese leaders like Chang-Tso-lin who, through good and evil days have combated Bolshevism and struggled to maintain some form of law and order in the midst of chaos.

## CHINA FROM WITHIN

By LIEUTENANT-COLONEL R. M. CROSSE, late R.A.

THOSE who have not dwelt in China but read newspaper reports of Chinese affairs are often prone to enquire what is going to happen next and are surprised when indirect answers are received. The fact is that none but the veriest tyro, or perhaps the intelligent tourist, would dare to prophesy about this topsy-turvy country. Even the foreign resident on the spot will generally give up as hopeless the task of following political events and content himself with expecting the abnormal. The reader who is interested, however, need not necessarily lose heart if he will recognise that the Chinese live in a world of values different to ours and be content to visualise their main characteristics in their proper perspective. The following notes will, therefore, endeavour to place before the reader a mental picture of the main ingredients of this subtle dish which may be described as a "Chinese stew."

Firstly it is necessary to appreciate that China proper covers an area which corresponds to the greater part of Western and Central Europe, so that we may expect her territory to contain peoples nearly as widely different as the Dutch from the Italians. The absence of rapid communication, in addition to the physical features of high mountains crossed by few passes, accentuates the differences. On the other hand, the possession of a common written language, albeit it is read by a very small percentage of the population, imbues the people with a surprising sense of nationality, which is strengthened by history, tradition and mythology. Theatrical plays are performed in a special language (except plays specially acted in local dialects) which is hardly understood at all by the common people except through a more or less stereotyped code of acting. The educated are taught the official language and this forms a common basis of communication among them. There exists considerable provincial jealousy, but the isolation of provinces is slowly breaking down owing to the increasing vogue of troops of one province being brought into another in the process of internecine and other wars.

In speaking of the Chinese as a homogeneous race, one must, of course, allow for the differences bound to occur owing to the above reasons and only generalizations can be made. Roughly speaking, the character of the people in the North is more stolid than that of those in the South who, from time immemorial, have been known to be turbulent. In spite of outbreaks demonstrating the contrary, the

Chinese are a lovable, hospitable, cheerful, hardworking, conservative race. They are slow to move and secretive of their feelings, patient under tribulation and stoical under disaster. They have no particular religion, but accept the doctrines of Confucius and the Taoist ideas of life and its government by spirits, most of whom have to be placated. In themselves they despise the foreigner but do not resent his presence except when told to do so by their government. This fact has been outstanding through the whole history of the foreign contact with China, including the events of 1841, 1857, 1900, 1921 and 1925. There is no doubt that they are one and all proud of the fact of being Chinese and they will welcome with open arms those whom they imagine will recognize the qualities of which they are proud and conceive themselves to be possessed.

As a whole, the Chinese are, from a physiological point of view, a highly-bred race. Their descent is very pure, inter-marriage with "barbarians" being much discouraged. They are of an ingenious turn of mind, and travel in the country reveals much that is astonishing, for, besides the invention of gunpowder, they have to their credit, *inter alia*, a turbine worked by water on the true principle of the turbine as opposed to the waterwheel, the raising of water 60 feet by a wheel actuated by the river from which the water is raised, and many other devices. Their ancient system of education has cultivated extraordinary powers of memory which stand them in good stead in assimilating knowledge in foreign countries and obtaining degrees. They have a high appreciation of art, while a delicacy of touch assists them to become proficient in pursuits requiring a light hand. They have, however, no sense of upkeep, which plays havoc with public works, railways and all things requiring maintenance.

Peace and tranquility, which he never gets, is very dear to the Chinaman, who, though he may call himself a soldier, is not a fighter, unless perhaps he considers that one-sided affair, brigandage, to be fighting. To get over this physical difficulty the Chinaman takes care that he is in the majority and, where resentment is aroused, combines with his friends in a Society or "Tang." And here it may be mentioned that in China the family is the unit, not the individual.

It may reasonably be asked why it is that the Chinese, if they have all these excellent attributes, have lapsed into such chaos. The reason does not seem far to seek. Judged by Western standards the faults at the bottom of the present weakness of China are financial immorality, disloyalty, love of intrigue and nepotism. A further handicap is that of national self-conceit.

It is true that Confucius enjoined loyalty and honesty, and the bulk of Chinese not only revere these principles but give effect to them as far as is practicable in their private lives as well as in their business, at least with foreigners, but it is in public life that effect is not given to these principles. The Manchus adopted a system by which the

Great Officials were required only to produce a certain amount of revenue for the Central Government and each lesser official a proportionate amount for his immediate superior. A sort of assessment existed for each district and the officials being paid only a very nominal salary retained the surplus from their official assessment. The main consideration was to keep the district quiet—nominally happy and peaceful; subject to this no enquiries were made as to extortion. The Government was generous in the matter of bad years and in theory the system had much to recommend it. It left, however, no room for municipal improvement on modern lines and such improvements as were carried out in the latter days of the Monarchy were extremely slow of accomplishment as there was nothing to prevent speculation of funds on a large scale, there being absolutely no check, and the works done depended entirely on the whim of the official in charge. The system decreeing that no one over the rank of District Magistrate could serve in his native province, tended to exclude any territorial interest of the higher officials.

The vast movement, the inception of which is ascribed to Dr. Sun Yat Sen, which to-day is widely known as the Kuo Min Tang or Comintern, undoubtedly aimed at the emancipation of the people from the evils which had grown from this form of government under which it was obvious that the pleasures enjoyed by foreigners in their own lands could never be attained in China. The original broad lines of Government by the people, of the people, for the people, found great favour among the Chinese students who were or had been abroad. Popularity of the movement rapidly grew in China, so the Revolution of 1911 became an accomplished fact.

Dr. Sun was eventually placed at the head of the new Government and great things were hoped for. New principles were introduced. Equality was preached and in one fell swoop the old worship of the throne, which from time immemorial and by virtue of the Emperor being the Son of Heaven, was practically a religion in the strict sense of the word, was swept away. As in all revolutions the movement ran ahead of itself and in effect nothing was left but the worship of Mammon. The young generation of foreign-trained officials on whom reliance was placed did not possess the necessary experience, so that the old school was soon back in its old places, but free from the heavy hand of the Central Government, for the purpose of keeping local order. Material advances were made which tended mainly towards the disruptive effects of the opening of telegraphic communication to the public, and of an unbridled press. Throughout the fifteen years which have elapsed there has been the constant warfare between the absolutist régime which proves itself necessary to restrain the wildness of the more radical elements, and the liberal theory which combats the absolutist in the effort to introduce representative government.

It is not possible to follow in detail the rise and fall of Dr. Sun Yat Sen and his foreign-trained adherents, nor to enter into his attempts



to reconcile the unmanageable opposing forces, but it is sufficient to state that in his later writings Dr. Sun recognized that there must be a period of military dictatorship to be followed by a nominated form of committee government before the people could be versed in the meaning of representative government.

Apart from the soundness or otherwise of his theory there have undoubtedly been times when a reasonably efficient government of a particular district has done municipal work of considerable merit, but the evils of intrigue, or the malignant growth of nepotism, coupled always with the incapability of the Chinese official to run on the rails of public probity, have made the lives of such administrations all too short. Such brief interludes have always ended in a war fought, not as it should be among zealots (as they claim to be) in blood, but in rank bribery. The system of attacking the enemy from within, of which Dr. Sun was a great exponent, has been so successful that the employment of this method spread to overwhelming proportions long before the Bolshevik grafted his malignant principles on to the weed-growth of China's national delinquencies. Thus wholesale bribery, coupled with the cost of modern weapons, enhanced by the smuggling necessary owing to the arms embargo, and the continued impoverishment due to the interruption of trade, has brought China's finances to their lowest ebb and the necessity has arisen to grind down all and sundry for the necessary funds to carry on.

To the Chinese "man in the street" it is obvious that something has gone wrong. He has been taught that he is no longer a beast of burden but a man, just as any foreigner. He has been told by returned men of his own class that the foreigner is far richer than he and that, if he (the foreigner) finds himself badly off, he strikes until his pay is increased. He knows that the foreign workman in his own country does the work which the coolie does for him in China. He hears of social reformers forcing on Colonial Governments reforms for the benefit of him and his. In short, he has learnt to be dissatisfied. The Chinese is not slow to see that there is a future for the Chinese social reformer; also he sees that there is money in it. Now in a country where the written language cannot easily be read, the population depends on being spoken to. The Chinese is a born actor and orator, and his audience are by nature and by circumstance as wax in his hands. The Tang tradition also helps in this development and the formation of Trade Unions follows as a natural consequence. A small subscription starts the ball rolling and the weight of public opinion on a timid crowd is sufficient to swell both numbers and funds, of which of course the leader gets his fair percentage—and as much as possible besides. The funds are peculated and the worker finds himself little better off. So goes the vicious circle until the time comes when matters are serious and funds must be raised at all cost.

It was at this point that Dr. Sun, failing to inculcate in the foreign nations that good opinion—which is held by the Chinese themselves—

of their own prowess, turned to Russia. It was, no doubt, an easy task to show the Chinese of the Kuo Min Tang that the lack of money in China was due to the sapping of China's resources by the foreigner. No accounts are published in China—not even those of the Kuo Min Tang—except the foreign controlled revenues, and these look imposing sums to the badly-paid wage earner. The educated are, of course, aware of the facts, but those of them who are not “in the hunt” from private or patriotic motives are a small minority. Thus it has become an accepted fact that the cause of China's troubles and the obstacle to China's advance are the foreign nations led by Great Britain whose dominating power is obvious to everyone within the reach of a newspaper published by a “free” press or swayed by “free” speech—as controlled by the Kuo Min Tang. The remedy advocated is to shatter this foreign influence with a view to recovering the control of the Customs services, of the revenues of the railways, and of other Chinese institutions which are, in the hands of foreigners and in times of peace, veritable gold mines. The proletariat is not told of the very excellent reasons, so well known to us at home, for the retention of these securities by foreigners. The concession question is dealt with on similar lines.

This then is the viewpoint taught to the man in the street. The merchant and the educated man is in the minority and goes on losing trade and prosperity. The members high up in the Kuo Min Tang do not, of course, believe these arguments. Theirs is a different viewpoint. Without labouring the point it must be repeated that the Chinese are nation-proud and self-conceited. This fact was stated in public by Dr. Hu Shih last year. The modern Chinese while being educated abroad is treated with a respect which he himself thoroughly deserves, for he is a polished gentleman of sterling characteristics. On his return to his country he becomes classed as a “chink” and either drops or is dropped from the circles in which he moved abroad. When he enters the sphere of government he lacks the training and experience of the representatives of the Great Powers with whom he has to grapple. He feels the stigma of colour, which in happier circumstances he need not feel. Above all he feels himself to be in an inferior position, treated as an inferior. He casts his mental eye towards the paper schemes and plans for the betterment of his country and cannot see why his country does not rank with the greatest in the world. He repeats to himself that his country occupies a quarter of the globe, possesses a population of four hundred millions, and nurses his grievance. Finally, he looks to Japan and imagines that the substance of her progress is repeated in the shadow of the possibilities of his own country. In short, he longs for recognition of equality in all respects with the nations of the world.

The old type “Mandarins” are made of sterner stuff but perhaps defer too much to their foreign-educated sons. They can see with any one the advantages to be reaped from the abolition of extra-territoriality and from making foreigners and foreign firms pay the same extortions

they get from their own countrymen. So they lie in wait to take any advantage to be reaped from negotiations on Geneva lines between the foreign countries and the Kuo Min Tang representatives. They probably have their doubts as to the security of the foundation on which they have built their satrapies; they feel a certain nervousness at the effects and successes of the weapons of extensive propaganda in and around them that have been borrowed from the Soviets; they may have qualms as to the latest methods of mob violence and street fighting that have been introduced by the foreign-led Red legions. But still the merry game goes on, merry as long as the foreign Powers do not get together and exert that force which all classes of Chinese leaders now practice so imperfectly. At all costs this must be prevented and so far this has been successfully done by a subtle blending at crucial moments of the principles of alternating reports of disruption and amalgamation, always threatened but never complete, duly handed to a rapacious press.

The system of always using representatives and never writing anything is one which has always been in favour and has certainly justified its existence; and so the outside world is always in a state of confusion as to what is going on, while public opinion as to any particular move can never crystallize and produce the deadlock which every Chinese official would dread.

Ever since the Bolshevik assistance was sought it has been said by the Kuo Min Tang that when they had finished with the Bolsheviks they would shake them off. Of this they are quite capable in theory but the practice seems to offer difficulties.

It may well be that Dr. Sun sometimes turns in his crystal casket within the Mausoleum at Nanking and whispers: "Quo Vadis?"

## THE INTERNATIONAL SITUATION

### THE NAVAL CONFERENCE

THE Conference to consider Naval Limitations, called by the President of the United States, opened on 20th June, at the Council Hall of the League of Nations at Geneva, when the representatives of Great Britain, America and Japan met under the presidency of Mr. Hugh Gibson, the United States Ambassador to Belgium. The French Government sent an "informer" and the Italian Government an "observer."

The delegates appointed by H.M. Governments in Great Britain and the Dominions and the Government of India to attend the Conference were: *Great Britain*, Mr. W. C. Bridgeman, First Lord; Viscount Cecil of Chelwood, Chancellor of the Duchy; and Vice-Admiral Sir Frederick Field, Deputy Chief of the Naval Staff. *Canada*: Mr. E. Lapointe, Minister of Justice, and Mr. W. A. Riddell, Canadian Advisory Officer at Geneva, who was to serve in the initial stages before the arrival of Mr. Lapointe. *Australia*: Sir Joseph Cook, High Commissioner in London. *New Zealand*: Sir James Parr, High Commissioner in London, and Admiral of the Fleet Lord Jellicoe, late Governor-General. *South Africa*: Mr. J. S. Smit, High Commissioner in London, and Mr. C. Pienaar, Trade Commissioner for the Union in Europe. *Irish Free State*: Mr. D. Fitzgerald, Minister for External Affairs, and Mr. J. A. Costello, Attorney-General. *India*: Mr. Bridgeman.

The following is a summary of the proposals put forward for discussion by the three participating Powers:—

**GREAT BRITAIN.**—The proposals of the British delegation were as follow:—

(1) The extension of the accepted life of existing capital ships from 20 to 26 years, and a consequent waiver by the three Powers of their full rights under replacement tables agreed upon at Washington. Such an arrangement would naturally have to provide for some little elasticity on each side of that figure.

(2) The fixing of the life of other vessels:

- (a) Eight-inch gun cruisers at 24 years;
- (b) Destroyers at 20 years;
- (c) Submarines at 15 years.



(3) The reduction in the size of any battleships to be built in the future from the present limit of 35,000 tons displacement to something under 30,000 tons.

(4) Reduction in the size of guns in battleships from the present limit of 16-inch to 13.5 inch.

(5) Limitation of the displacement of aircraft carriers to 25,000 tons instead of 27,000 tons.

(6) Reduction of guns in aircraft carriers from 8-inch to 6-inch.

(7) Acceptance of the existing ratio 5 : 5 : 3 for cruisers of 10,000 tons displacement carrying 8-inch guns.

(8) The number of these larger cruisers which each of the three countries require can be the subject of further discussion.

(9) A limitation of 7,500 tons and 6-inch guns to be placed on all future light cruisers after the number of 10,000-ton cruisers has been decided upon.

(10) Limitation of displacement of :

(a) Destroyer leaders to 1,750 tons ;

(b) Destroyers to 1,400 tons.

(11) Guns in destroyers to be limited to 5-inch.

(12) *Submarines*.—We have not changed our mind since the Washington Conference, when our delegates expressed their willingness to agree to the discontinuation of the use of submarines in warfare. But we recognize that Powers which possess fewer of the larger vessels of war regard the possession of submarines as a valuable weapon of defence.

At the same time we feel that if the proposals we have put forward for limitation of battleships and other more powerful vessels of war should be accepted, it would not be unreasonable to suggest some limitation in the size, and perhaps also in the number, of submarines.

We therefore propose that the tonnage of the larger type of submarine be limited to 1,600 and of the smaller type to 600, and the armament of each to 5-inch guns. We also think it would be desirable to discuss the possibility of limiting the number of submarines according to our varying requirements. And it must be borne in mind that any limit placed on the number of submarines would make it easier to limit the number of destroyers, and if agreement were reached on these points with other Powers it might be possible also to consider numbers of cruisers each of us should possess.

UNITED STATES.—The proposals of the United States Government took the following form :—

(1) That the ratios and principles of the Washington Treaty be applied to cruisers, destroyers and submarines.

(2) That any agreement concluded in Geneva by the three Powers to limit the building of auxiliary vessels should be made coterminous



with the Washington Treaty and contain the same general provisions for extension or modification. It may be desirable to include an additional provision respecting revision, in the event of an extensive building programme by a Power not a party to any agreement the three Powers may conclude.

(3) That for the purpose of the future limitation of naval armaments, auxiliary vessels be divided into four categories, three of which, namely, cruisers, destroyers and submarines, shall be subject to limitation, with a fourth category of negligible combatant value not subject to limitation, as follow :

- (a) Cruiser class, including surface naval combatant vessels between 3,000 and 10,000 tons ;
- (b) Destroyer class, including all surface naval combatant vessels between 600 and 3,000 tons, with a speed greater than 17 knots ;
- (c) Submarine class, including all vessels designed to operate below the surface of the sea ;
- (d) An unrestricted class, including other naval vessels of negligible combatant value, the definition of vessels falling in this class to be subject to technical agreement.

(4) A limitation of tonnage in a general programme providing as low a total tonnage in each class of auxiliary vessels on the basis of the Washington ratio. The tonnage allocations suggested as a basis for discussion are :

#### TOTAL TONNAGE LIMITATIONS.

##### *Cruiser Class.*

United States	.. .. .	250,000 to 300,000 tons.
British Empire	.. .. .	250,000 to 300,000 tons.
Japan	.. .. .	150,000 to 180,000 tons.

##### *Destroyer Class.*

United States	.. .. .	200,000 to 250,000 tons.
British Empire	.. .. .	200,000 to 250,000 tons.
Japan	.. .. .	120,000 to 150,000 tons.

##### *Submarine Class.*

United States	.. .. .	60,000 to 90,000 tons.
British Empire	.. .. .	60,000 to 90,000 tons.
Japan	.. .. .	36,000 to 54,000 tons.

JAPAN.—On behalf of the Japanese Government proposals were put forward of which the following is a condensed summary :—

(1) In future no building programme to be adopted, no new ships to be acquired for the purpose of increasing naval strength.

(2) The naval strength to be allowed each Power shall be determined for surface auxiliary craft and submarines respectively on the basis of the tonnages of the existing effective ships and of the ships

under construction, taking into consideration the tonnages of the ships authorized but not yet laid down and of the ships attaining age limit during the execution of the authorized programmes.

(3) Construction or acquisition of the ships in future shall be limited to replacements within the limit of the prescribed naval strength of the respective Powers. Due consideration should be given to equalize as far as possible the amount of annual constructions for replacements.

(4) The ships of small dimensions and the ships limited in activity shall be exempt from limitation.

PROCEEDINGS.—As in the case of the larger Conference for the general limitation of armaments, the delegates concerned with the limitation of the three navies, found at the outset certain fundamental differences in the essential requirements of their three nations. These may be summarised briefly as follows:—

*British Empire.*—The naval needs of the British Empire are based on geographical considerations and on the vital importance of sea-borne supplies to Great Britain.

The long sea routes which knit the Empire together necessitate a certain minimum number of cruisers to police them, whether in peace or in war. These cruisers need not all be as large as 10,000 tons, the maximum agreed to at the Washington pact, and the British delegates indicated that they were prepared to accept a strict limitation of the number of these very large cruisers on a similar basis to that already in force for battleships. The balance of cruiser-strength could then have been made up of smaller, and less expensive, ships of even 6,000 tons, armed with guns of not greater than 6-inch calibre.

Our delegates raised no objection to the United States building an equal number of similar ships; but they were unable to agree to a system of limitation by total tonnage, which would enable another Power, without our world-wide responsibility, to build more 10,000 ton cruisers than we possessed, or to arm their smaller cruisers with 8-inch guns, while ours were only armed with 6-inch; even though we were numerically stronger.

The British case was very frankly and fully stated and categorical reasons for our proposals have been given at each stage.

*United States.*—The United States delegates were handicapped from the outset by the fact that their mission was inextricably mixed up with politics, national prestige and commercial interests, instead of resting on a straightforward statement of American naval needs. It would seem that President Coolidge sought this Conference as a means whereby he hoped to extricate himself from a position which was rapidly becoming untenable. Pressed on one side by pacifists, economists and idealists, and on the other by the "big navy party," steel and shipbuilding interests, he seems to have hoped to find relief in an international agreement which would prove binding on these warring interests without the

odium of a decision, unpopular in one quarter or the other, falling on White House.

The Conference has failed. President Coolidge has announced that he "does not choose to stand for re-election."

The cause of this failure must be attributed chiefly to the uncompromising attitude of the American Delegation over the question of cruisers. They came without a properly prepared and logically stated case, and resisted the sincere attempts of our delegates to compromise.

They demanded "parity" with Britain and comparison by "global tonnage." We do not dispute America's right to "parity" in regard to building up to ship for ship equality with ourselves, we have even expressed readiness to accept her present marked preponderance in numbers of destroyers and submarines; but we cannot reduce our total number of cruisers, below our minimum needs. In practice it is illogical for American to build up a cruiser fleet as numerous as ours, and if she does so it will place her in the incongruous position of having sought economy in naval armaments and ended in a huge increase in her expenditure and in her naval forces. But that is her own affair and need cause us no great concern so long as we do not lower our own standard.

*Japan.*—The third party to the Conference has been in the rather pathetic position of the poorer partner who feels he must keep his end up but cannot afford to do so unless the most opulent member will restrain his ambitions. The Japanese delegates were no less genuinely anxious to effect limitation and economies than our own—and agreement between the British and Japanese views was well within sight—but they were, naturally, unwilling to allow the disparity between their own and the American navy to increase.

America's insistence on "parity" with Britain, made Japan apprehensive that she would have to incur the expense of adding to her navy proportionately; the result being the very reverse of that which the Conference set out to achieve.

GENERALLY.—As the final outcome of the Conference was only known just before this number of the JOURNAL was printed, it has only been possible to outline the broad issues. The general impression left, however, is that more harm than good has come out of the discussions.

Had we gone our way unquestioned, building steadily and openly, according to our minimum naval needs, asking no other nation's permission or advice, our motives could not have been so grossly misrepresented and misstated as they have been in a large section of the American press lately, and the good relations of the two friendly nations would not have been disturbed. The President and his naval advisers would have had to decide on their own course of action without seeking to shift their responsibility on to other shoulders.

The development of these recent Conferences would seem to point to the wisdom of reverting to "self determination" for nations in the

matter of armaments as well as in internal politics; for, so far, the efforts to effect limitations of armaments by round table discussions appear only to have accentuated differences in outlook and defensive needs and to have enhanced the sense of mistrust, which is the natural aftermath of a great war.

A general sense of security may lead to a reduction of armaments; but that sense is not being promoted by a full display and intensive comparisons of national weapons and aspirations.

### THE PRIME MINISTER OF JAPAN

GENERAL BARON GI-ICHI, TANAKA, K.C.M.G.

By COLONEL JOHN SOMERVILLE, C.M.G., C.B.E.  
(Formerly Military Attaché, British Embassy, Tokyo).

IN the present tortuous and confused course of events in China, in which we in this country are so vitally interested, the man who beyond most others is inevitably bound to play a determining part is the Prime Minister of Japan. I first knew him in 1912 when he was plain Major-General Tanaka, head of the Military Affairs Bureau of the War Office that was dealing with affairs in China. The witch's cauldron in that unhappy country, into which the ferment of Western democracy had recently been cast, was already beginning to bubble ominously—harbinger of the "toil and trouble" that was being brewed therein. At that time I had to see him twice weekly, as Military Attaché of the Embassy of the allied country, and receive from him a confidential bulletin of news on the tangled situation there for transmission home. Very early in the course of our relations I realised that I had to do with a man of exceptional strength of character, acumen, and straightforwardness—an impression which time and increased intimacy only served to confirm. When I left Japan finally in 1919 he had risen to be Minister for War, and I know that in that capacity my successor, Brigadier-General Woodroffe, found him, as I had, a loyal, unreserved, and most helpful friend.

Amongst the qualities of the Japanese officer expansiveness is not usually to be reckoned, and it was therefore a novel experience to be doing business with one who would put his cards on the table without any of the invariable polite circumlocution of the race, and would say frankly and at once that such and such a matter was confidential, and that he could therefore tell me nothing about it. The traditional courtesy of the Japanese abhors a direct negative of the kind, and will make a circuit of miles to get round one; and the shock of surprise which the first straightforward refusal gave me was like an invigorating tonic to our subsequent relations. I am bound to say that this but rarely happened; and, on the other hand, he was big enough and had sufficient confidence in his own judgment to know how far he could



go without injury to the interests of his country. I thus obtained from him on many occasions information of real value, ungrudgingly given. Off duty, there was no one who could more pleasantly or more jovially *desipere in loco*. Many a tea house entertainment at which I have been his guest has been enlivened by his bluff and open personality and hearty laugh. But one never failed to feel behind this the presence of a strong and masterful will, and a penetrating appraisal of men and things, always alert and observant. Though he has paid one brief visit to this country, his only extensive European experience has been in Russia under the old régime, where he picked up a certain amount of the language, the only foreign one of which he has any knowledge.

His intimate understanding of things Chinese makes his advent to power exceedingly fortunate. Up to the present there has been—beyond the despatch of troops to Shantung—little to distinguish his policy from that of his predecessor. This would be surprising but for the fact that there are two potent brakes on any that might be described as "forward," one traditional, the other quite modern. The first is the influence, still, though with diminished strength, wielded by the Genro—the Elder Statesmen—who had some voice in the making of Prime Ministers and the determination of policy. There is only one of these veterans still alive, though he has never been regarded as more than what was vulgarly called a "Half Genro"—Prince Saionji. It is possible that before sanctioning the appointment of General Tanaka, he extracted from him an undertaking not to depart from his predecessors' quiescent Chinese policy. How different it might have been had that splendid old Chóshu autocrat, Prince Yamagata, still been alive!

The second brake is, of course, the pressure of the great financial and industrial interests, which fear beyond anything the institution of another boycott. It now seems as though, in spite of the moderation of Japanese action, this fear were in the act of being justified. If so, no doubt, there will be an outcry for a little less *suaviter in modo*, and a little more *fortiter in re*. From my knowledge of him, however, I cannot believe that the General will continue for long to pursue a policy under duress of any kind—if indeed he is doing so now. I feel safe, too, in predicting that in him Britain will always find a good friend. With all patriotic Japanese—and there are few indeed who cannot be so described—there is, *au fond*, little enough consideration for any country but their own. But certainly, during my ten years' experience of the country, I always found a genuine discrimination, both public and private, in our favour; and in no senior officer with whom I had dealings was this more marked than in General Tanaka. The institution of the Singapore base, following as it most inopportunistically did on the lapsing of the alliance, unquestionably dimmed the favourable light in which, up to then, we had been regarded; but I have every confidence that his vision is sufficiently clear and his belief in our integrity sufficiently strong, to keep alive in him the sentiments with which he formerly regarded us.



### U.S. PRESIDENT AND THEIR FIGHTING SERVICES

THE *Army and Navy Journal*, Washington, of 4th June last, contains the following remarks on and summary of a recent significant speech by the President dealing with the policy of the United States Government in regard to their fighting Services :—

"No address President Coolidge has delivered is more emphatic in its support of National Defence than that which he delivered at Arlington on Memorial Day.

The address has a significance which apparently has escaped the daily press. It came at a moment when the Northern sweep of the Cantonese forces threatened the conquest of Middle China and consequent contact with the guards of the Powers at Peking and Tien Tsin ; when Great Britain has ruptured relations with the Soviet Government, and that government is seeking recruits for the Red Army and floating internal loans ; and on the eve of the convening of the Tripartite Naval Conference at Geneva.

President Coolidge, in the course of his remarks, notified the world that the United States will not be caught unprepared. He called attention to the fact that practically every civilized nation is our debtor, and that we are oft-times the object of envy, and then he added this warning :

'Unless we maintain sufficient forces to be placed at points of peril when they arise, thereby avoiding for the most part serious attack, there would be grave danger that we should suffer from violent outbreaks, so destroying our rights and compromising our honour that war would become inevitable.'

In another part of his address, the President used this language :

'We could no more dispense with our military forces than we could dispense with our police forces. While we are firmly convinced that it is altogether practical and possible by international covenants to limit them in size, to consent to their abolition would be to expose ourselves first to aggression and finally to destruction.'

And again, the President said :

'If we are sincere in our expressed determination to maintain tranquility at home and peace abroad, we must not neglect to lay our course in accordance with the ascertained facts of life.'

These quotations from the President's remarks are accepted in Washington official circles as establishing that President Coolidge is vigorously opposed to any suggestion for the abolition of our land and naval forces or anything like it. He is willing, as his action in calling the Geneva Conference shows, to agree to a limitation of naval armaments, provided, and this proviso deserves emphasis, the relative strength of the United States shall not be impaired.

All proposals advanced at Geneva will be considered in this light, and if they are not in accord with the 5—5—3 ratio they will not be agreed to. So far as the Army is concerned, the President feels that it must be maintained at the strength authorized during the last Congress, and the estimates which he will submit at the next session will be in accordance with that authorization.

The President's high regard for the uniform is shown by this quotation from his address:

'Although fortunate circumstances have placed us in the position where we do not need to maintain large and burdensome military forces, although we are a people peculiarly devoted to the arts of peace, yet these are no reasons why we should withhold anything of the just appreciation that is due to those who are devoting their lives to the profession of arms. These men stand ready to respond at any moment to the order of our Government to proceed to any point within our own country or to any portion of the globe, where disorder and violence threaten the peaceful rights of our people. Their post is always the post of danger and their lives are spent in service and sacrifice to promote the welfare of their country. America has a just right to satisfaction and pride in the personnel and purpose of its Army and Navy. We cannot be loyal to the flag if we fail in our admiration for the uniform.'

In making his address, the President made it clear that what he had in mind was the preservation of American peace; and this he realizes can only be assured through the maintenance of adequate and disciplined forces."

### GERMANY AND HER MILITARY POSITION

THE occasion of one of the latest meetings of the Preparatory Disarmament Commission at Geneva was taken by Herr Gessler, the Minister of Defence, to make a statement on the subject of Germany's military position.

He said that Germany could not exist permanently with her present military system. She must therefore demand that other nations disarm and adopt the system that had been forced upon Germany. Either there must be general disarmament, or Germany must be placed in a position to meet possible enemies with equal weapons; and so on. Other speakers in the Reichstag demanded a revision of the Reparations clauses and a reduction of war burdens.

There is no doubt that German public opinion is growing increasingly impatient at the absence of any material results for Germany's benefit from the Locarno and Thoiry conversations, and from the proceedings of the Preparatory Disarmament Commission. The latter, in the

German view, is merely tending to perpetuate the present disparity between French and German armaments, which they consider is not only intolerable, but contrary to the Treaty of Versailles and the Locarno Pact.

The Rhineland evacuation is now a burning question in Germany and there is no doubt that it will shortly come up at Geneva. There is also the matter of "the Polish corridor" to Danzig, which is perhaps the only subject capable of truly uniting all German political parties.

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### RECENT EVENTS IN CHINA

THE Chinese situation does not exhibit any really material change; neither from the foreign point of view has it taken any turn for the better. The Southern forces and governments seem unable to follow up those advantages which they seemed to have made good in the Yangtze Valley during March, April and May. The split between Nanking and Hankow, between the extreme, communistically inclined, faction at the latter place and the more moderate party headed by the Cantonese generalissimo, Chiang-Kai-shek, appear to paralyse any vigorous advance northwards. Chiang, if not actually of a more friendly disposition towards foreigners, is, however, opposed to mob rule and pillage. In so far as that is concerned the situation may be said to have improved.

The Northern Allies first seemed to gain a breathing space and drove their adversaries southwards. There was little military effort in this move, which was mainly based on the internal dissensions in the Southern ranks. Wu-Pei-fu's Army seems to have been taken over by Chang-Tso-lin, although a portion of these troops had been bought by the South. In spite of these temporary advantages Chang-Tso-lin does not seem to have displayed any real intention of moving southwards.

Chiang-Kai-shek, on the other hand, once more gained in power and influence. Then an understanding, so it seemed at least, had been concluded between Nanking and Hankow and the situation promised an advance of the Southern armies that must sweep all before it. Further advantages accrued to the Southern side. The City of Honan was captured by T'ang-Sheng-chih, a violent "red," assisted by the population. Yen-Hsi-shan, the Governor of the Province of Shansi, also sided with the Nationalists, thus opening the road for Feng-Hu-hsiang through that district. Finally, while Chiang-Kai-shek in the east found means to advance northwards as far as Hsuechowfu, a point little more than 300 miles south of Peking, Chang-Tso-lin retired further north from Chenchow on the Lunghai Railway on the north side of the Yellow River.

These military events followed this course; in the fourth week of May, the Southerners began advancing along three main lines:—

- (i) In the West, Feng-Hu-hsiang was moving with apparent success on Chengchow, thus turning Chang-Tso-lin's position on the Yellow River ;
- (ii) The Hankow forces moved due North and appeared to encounter serious resistance. The issue seems to have been undecided ;
- (iii) Chiang's forces successfully continued their movement along the Pukow-Peking Railway.

The Southern successes, as before, seem to have been due largely to propaganda and intrigue as much as to any fighting.

The situation was then reminiscent of the Southern advance to the Yangtze. The Powers immediately reinforced the Legation guards and the Tientsin detachments. Among other reinforcements, one British battalion and 2,000 Japanese troops were despatched to those points in order to protect foreign interests.

Since that moment there has been little change in the military situation. Chang-Tso-lin, however, has been named or has arrogated to himself the position of generalissimo of the Northern forces. He has thus become the superior of Chang-Tsun-chang, and Sun-Chuan-fang. He has declared his intention of fighting the Communists to the last and of holding Peking.

In the South the Nationalist command seems to be divided between Feng-Hu-hsiang and Chiang-Kai-shek, the former in the west, the latter at Nanking. T'ang-Sheng-chih has been sent back with his "red" supporters. There is no sign of any common military policy emanating from these two commands, although they have sent a demand to the Hankow Government for the dismissal of Borodin, the Russian emissary, and of some others.

Negotiations between the various leaders, however, continue and there is no doubt that propaganda, bribery and intrigue are more in favour than any direct military plan of action. It is rumoured that even Chang-Tso-lin's better class forces are being undermined by secret agents from the rival armies, but Chang-Tso-lin himself is said to be suppressing all mutinous tendencies with the utmost severity.

It is impossible to forecast the future. Personal rivalry, intrigue and political propaganda are rife. The three outstanding figures, Chang-Tso-lin, Feng-Hu-hsiang and Chiang-Kai-shek mistrust one another and little hope can really be entertained of their coming to a definite understanding. Meanwhile, it is undoubtedly true that Russian influence has received a check, although Feng is unquestionably on the side of Moscow. The Hankow Government is declining in power, but Chiang's position is none too secure.

Money is beginning to be a consideration. The Southern "Governments" are said to be inflicting taxes and attempting to extort dues from commerce contrary to all existing treaties. Simultaneously, there

is beginning to be felt a check on trade particularly in the Yangtze Valley. Imports are falling off owing to the lack of security against dearth of money, extortionate taxation and open robbery. There seems room to fear that worse is still in store, for it is utterly impossible to hope for better trading conditions until a really effective Government has been established in China. For the moment it is hopeless to imagine that such a contingency can come about; no Government seems likely to spring into existence, in the Yangtze Valley at least, until the present aspirants to power can come to some lasting agreement among themselves.

The latest moves of British troops in China are as follows :—

The Indian contingent, one Infantry Brigade, is being withdrawn from China to India. No further reduction has been authorized.

One Battalion, 2nd Border Regiment, has been despatched from Shanghai to Tientsin.

A convalescent depot has been formed at Wei-hai-wei, and one Battalion, 1st Middlesex Regiment, has been sent there to act as guard.

## ARABIA AND THE EASTERN FLANK OF THE RED SEA

THERE is perhaps no maritime trade route in existence that could be dominated from adjacent land in the same fashion and over the same distance as the Red Sea. It follows, therefore, that Great Britain possesses the most weighty interests in the political and military development of the countries that lie along its shores.

The Native States of Western Arabia now constitute a centre of possible political activity that has acquired greater importance since the downfall of the Turkish Empire, the former ruler of that region.

Between the Sinai Peninsula and Aden there exist three such independent States. These, from North to South, are : (a) The Hedjaz ; (b) Asir ; (c) The Yemen.

*The Hedjaz* after the eviction of the Turks at the close of the Great War, was for nine years governed by King Hussein, the well-known insurgent Sheriff. But Hussein proved so ineffective a ruler, that, when attacked by Ibn Saud, the Chief of the inland Arabian State of Nejd, the resistance of the Hedjaz collapsed entirely. Ibn Saud, after capturing Mecca and Taif, took Jeddah on 5th December, 1925.

Ibn Saud is now virtual ruler of the entire North of Arabia. His territory is generally speaking desolate, though fertile in the vicinity



of certain oases. His revenue is collected in the shape of taxes levied on caravans and of dues exacted from maritime commerce at the Red Sea ports. At present, and so far as is known, Ibn Saud's attitude towards Great Britain is quite friendly; a treaty has recently been concluded with him, whereby British aeroplanes may cross over Ibn Saud's northern boundaries on their flight from the Mediterranean to Baghdad.

The fortunes of the state of *Asir* have lately been chequered. At the outbreak of the war, the reigning chief or "Idrissi" concluded a treaty with Great Britain by which he undertook to evict the Turks from *Asir* in return for ammunition and money, and also for the cession of all towns from which the Turks had been driven. Consequently, in 1920, the British, having captured Hodeida in the war, evacuated that place in favour of the Idrissi. No definite agreement was concluded in the matter; but that is what actually occurred. The transaction, however, greatly displeased the I'mam of the Yemen, who promptly asserted a prior claim to that place, since he considered the harbour to be an essential outlet for his trade.

Eventually, on the death of the Idrissi, the latter's son, Ali Sayed, so misgoverned *Asir* that his power decreased rapidly. A *coup d'état* took place and Ali was deposed; but *Asir* never recovered its former position.

In 1925, the I'mam of the Yemen began openly attacking *Asir* and very soon conquered the whole country northwards to Loheija. Now, Britain is a signatory to a Convention which prohibits the supply of arms to any State not represented in the League of Nations. The Idrissi, however, acting on the old treaty in vigour during the war, by which Britain agreed to supply him with arms, continually applied, both direct to the British Political Agent at Kamaran and through him to the authorities at Aden, for guns, ammunition and a steam launch. The answer to these requests has always been that the British were unable to meet his demands; further that they would take no action if any other State applied for similar assistance. This reply was supported by the argument that the I'mam's attack was not the attack of an exterior enemy, and that Great Britain had always maintained a strict neutrality in inter-tribal disputes.

More fighting has taken place between the Idrissi and the I'mam, much to the advantage of the latter. The Idrissi's sole hope of recovering his power would now seem to reside in his obtaining help from Ibn Saud. Should Ibn decide to move southwards, this action might prove a source of many difficulties to Great Britain, since Ibn's territory has a long sea frontage, whilst there also exists a possibility of arms and ammunition reaching him from the Persian Gulf. Italian supplies have already, it is alleged, been despatched to him through Mocha. As neither side is well provided with war material, any fighting might, moreover, last for some time.

*The Yemen* encircles the British Protectorate of Aden, for the I'mam controls the various clans living to the north of that territory. The tribes of the Yemen are for ever fighting among themselves. Recently one tribe, the Zadis, attacked the southern tribes and invaded the Protectorate to a depth of thirty or forty miles, in spite of the I'mam's directions to the contrary. This raid was forcibly repelled by the British. Similar incursions had, on several occasions, in the past, been dealt with in like manner. It seems, however, unlikely that the I'mam will ever effectually control his people, since the southern tribes are weak and peaceful, while the hill clans of the north are warlike, turbulent, and have little regard for human life.

None of the western Arabian ports possess any facilities for accommodating large ships. The Yemen has two or three small ports, of which Hodeida is now being worked with Italian assistance. A W/T station is there, maintained and staffed by Italians; there is an Italian doctor and an Italian engineer in charge of the works. The interests of Italy are, of course, centred in the development of trade in the Yemen hinterland. Here the finest coffee in the world is grown, while the mineral resources are reputed to be enormous. It is now reported that a railway may be constructed through this district by Italian enterprise. In 1912, the French had already attempted to construct such a line but without success; they merely lost money on it, until the Great War put a stop to the scheme.

Another port of the Yemen possessing commercial possibilities is Mocha. Nevertheless, should the Italians attempt to develop this place also, they are not likely to find it remunerative—under present conditions that is to say—for the necessary outlay is likely to be considerable, while local taxation is very heavy.

It is indeed remarkable how little interest France appears to be taking in this whole region at the present day. Lately it has been rumoured that the Idrissi may end by turning to the French for assistance, as he can scarcely appeal for help to the Italians whose interests are now bound up with the Yemen.

In conclusion, it might be added that a great religious problem, one bristling with petty difficulties, also exists in Western Arabia; it could at any moment assume a more acute form. This is the question of the Caliphate, now nominally held by the Idrissi. The succession to that office might be claimed either by the I'mam of the Yemen or by Ibn Saud, or even by both. The whole matter, however, is somewhat too complicated to be explained or understood in a few sentences.

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## CORRESPONDENCE.

### THE BIRTH OF THE REGULAR ARMY

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—With reference to the article "The Birth of the Regular Army," in the JOURNAL for February, 1927, may I be permitted to point out that it is perhaps slightly inaccurate to say that the enactments of the Mutiny Act were very irregular at first? And that "for long periods, sometimes lasting two years, it was not in force at all."

The only periods during which a Mutiny Act was not in force, from 1689 to the Hanoverian Succession, appear to have been :—

11th November, 1689, to 10th December, 1689. (28 days).

13th December, 1690, to 19th December, 1690. (8 days).

21st December, 1691 to 9th March, 1692. (2 months, 20 days).

11th April, 1698, to 19th February, 1701. (2 years, 10 months).

26th March, 1713, to 24th July, 1713. (4 months).

26th March, 1714, to 4th June, 1714. (2 months, 10 days).

or in all about 3 years and 8 months in 25 years, of which all but 10 months is attributable to a single broken period.

It is open to question whether the existence or otherwise of a Mutiny Act really made much difference, as far as the maintenance of discipline in the Army was concerned. For the Articles of War, whether or no they were strictly speaking applicable to troops in peace-time, or in Great Britain, were undoubtedly enforced by Courts-Martial *after* the first Mutiny Act had been passed, but *before* statutory sanction had been accorded to them.

Dera Ismail Khan.

20th April, 1927.

Yours, etc.,

H. BULLOCK, Captain, I.A.

### ARMY TRAINING

TO THE EDITOR OF THE R.U.S.I. JOURNAL.

SIR,—May I venture to draw your attention to the fact that an article appeared in the Russian *Krasnaya Zvezda* for the 10th March, 1927, on Colonel R. M. Raynsford's article on "Army Training," which appeared in your number for November, 1926.

The writer concludes his argument with the following remarks :—

"From what has been said above, we can make three deductions :

Firstly, that in British military circles the dominating idea is that of full mechanization of the army, and this tendency is expressed in the low appreciation of the strength of the infantry, and also in the assertion that a successful infantry attack on an enemy defensive position is impossible without the aid of tanks.

Secondly, the question of co-operation between different arms of the Service has not been fully settled, especially in the case of co-operation between infantry and cavalry.

Finally, too great expectations are placed on motor transport, which has a correspondingly deleterious effect on the psychology of the rank and file of the army.

The soldiers consider the transportation of troops by motor transport a normal occurrence. This might place the British Army in an awkward situation if it were operating in a roadless and marshy theatre of war."

Yours, etc. "OLD SOLDIER."

## GENERAL SERVICE NOTES

### ITALY

#### CO-ORDINATION OF THE FIGHTING SERVICES.

In 1925 a Supreme Commission of Defence was established and the co-ordination of the fighting Services was centred in the head of that Commission, known as the Chief of the General Staff. This office, until lately, has been held by a General who was also the Chief of Staff of the Army; it therefore involved dual responsibility. For matters connected with national defence as a whole the Chief of the General Staff was responsible to the Prime Minister, but as head of the Army he was also responsible to the Minister of War.

At present both these offices (i.e., Prime Minister and Minister of War) are held by Signor Mussolini; but there is no assurance that they will always be combined in one man. Even under existing conditions the system has not been working well and, in practice, the powers of the Chief of the General Staff over the Navy and Air Force were little more than nominal.

A new organization has now been introduced, which is designed to strengthen the position of the Chief of the General Staff with respect to his general responsibility for national defence as a whole. At the same time there is a separate Chief of Staff for the Army, who will be entrusted with special responsibility for that Service.

Thus, in future, there will be two distinct appointments :—

- (i) That of Chief of the General Staff (Capo di Stato Maggiore Generale) who will be directly responsible to the head of the Government;
- (ii) That of Chief of Staff of the Army (Capo di Stato Maggiore dell'Esercito) who will be responsible, through the Under-Secretary of State, to the Minister for War.

The chief features of the new scheme are :—

- (a) That the Chief of the General Staff may be appointed either from the Army or from the Navy;
- (b) That, provided two or more of the fighting Services are concerned, he will submit to the head of the Government the general lines of war plans, together with particulars of the main duties that will fall to each Service for the attainment of the common object;
- (c) That he will supervise the combined training of the fighting Services and submit programmes for joint exercises to be carried out by any two or more Services.

He must attend such exercise himself and report upon them as a whole to the head of the Government. The latter, through the medium of the respective Ministers, will communicate his own observations and decisions to the Chiefs of Staff of individual Services. In the exercise of his other functions the Chief of the General Staff will correspond with the Chiefs of Staff of individual Services through their Ministers;

(d) That the Chief of the General Staff will have a staff of his own composed of six officers selected from the Army, Navy and Air Force, This staff, though small, thus forms the nucleus of a combined staff drawn from all three Services.

The Chief of the General Staff, in co-operation with the Chiefs of Staff of the Army, Navy and Air Force, is to be responsible for drawing up the details of schemes for combined manoeuvres or exercises to be carried out by all three Services.

In order to assist him in the performance of his duties, the Chief of Staff of the Army is provided with a Deputy Chief to be known as the Second-in-Command of the Army Staff. In time of war it will be the special function of the deputy to relieve his chief of responsibility for all administrative and other subsidiary services.

This new organization appears to be a great improvement on the old one. The anomaly of one man serving two masters disappears, and the greater decentralization should lead to a much needed greater efficiency. It is also to be hoped that with this new scheme the plethora of re-organization which has been such a handicap to the efficiency of the Army as a whole will now be finished with, and that it will be left in peace to put its house in order.

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## UNITED STATES

### JOINT DEVELOPMENT OF AVIATION.

In order to secure more complete co-ordination between the Army and Navy Air Services, the Aeronautical Board has been re-organized on the following lines :—

(1) Members of the Board will be :

*For the Army.*—The Chief of the Air Corps, the Chief of the Training and Operations Division of the Air Corps, and one officer from the Plans Division, General Staff.

*For the Navy.*—The Chief of the Bureau of Aeronautics, the Chief of the Plans Division, Bureau of Aeronautics, and one member of the Operations Division, Plans Section, Naval Staff.

(2) The Board will hold regular monthly sessions.

(3) The Board will, so far as practicable, definitely assign to the Army or Navy the development of new types of aircraft and air weapons. Major questions relating to the development of new types must be referred to the Board for decision as to which arm is to proceed with the investigation of the question.



- (4) It is the duty of the Board to prevent competition in the procurement of material, and in time of war to co-operate with the Munitions Board.
- (5) All major questions which concern the two Services are to be submitted to the Board, who will formulate plans for the execution of joint problems each year by Army and Navy aircraft.
- (6) All recommendations by the Board affecting policy or plans for the tactical or strategical employment of aircraft will be submitted to the Joint Army and Navy Board which exists for the consideration of all war plans, etc., affecting both Services.

## NAVY NOTES

### GREAT BRITAIN.

#### H.M. THE KING'S NAVAL JUBILEE.

The 5th June of this year was the fiftieth anniversary of the entry of H.M. King George on the books of the "Britannia" at Dartmouth as a Naval Cadet. In response to a telegram of loyal and respectful greetings sent by the Captain, Staff and Cadets of the present Royal Naval College, His Majesty replied: "I have received with much pleasure the message of greetings you have sent me from the Staff and Cadets on this fiftieth anniversary of my entry on the books of the "Britannia." I sincerely thank you and them for the good wishes which your telegram expresses. It is with pride and satisfaction I look back on my long and close personal association with the Royal Navy, and I have the happiest recollection of my two years spent at Dartmouth."

#### THE FLAG LIST.

**THE LATE FIRST SEA LORD.**—On the occasion of his retirement from the office of First Sea Lord, which he had held since 1st November, 1919, Admiral of the Fleet Lord Beatty, G.C.B., O.M., G.C.V.O., D.S.O., was nominated, with the approval of the King, to be a member of His Majesty's Most Honourable Privy Council, and was sworn in on Monday, 25th July. Lord Beatty was succeeded on 30th July, by Admiral of the Fleet Sir Charles Madden, Bt., G.C.B., G.C.V.O., K.C.M.G.

In a letter dated 23rd July, 1927, the Prime Minister, writing to Lord Beatty, placed on record the thanks of the Government for "the invaluable assistance you have rendered during the last eight years, following your great service in the war. We all recognize," said Mr. Baldwin, "that the period of retrenchment and economy which necessarily followed on the war has been one of exceptional difficulty for the Admiralty, and we greatly appreciate the continuous efforts you have made to achieve these objects consistently with the essential needs of naval defence." The Prime Minister, further, invited Lord Beatty to remain a member of the Committee of Imperial Defence.

It was announced on 30th June that the King had appointed Paymaster-Captain Frank Todd Spickernell, C.B., D.S.O., R.N., to be a Knight Commander of the Civil Division of the Most Excellent Order of the British Empire. Paymaster-Captain Spickernell was Secretary to Lord Beatty during the latter's term at the Admiralty and also throughout the war in the Grand Fleet.

**RETIREMENTS AND PROMOTIONS.**—On 12th July, the Admiralty announced that Vice-Admiral Wilmot S. Nicholson, C.B., had been placed on the retired list, at his own request, to date 1st July. From the same date, Rear-Admiral T. D. Gilbert, C.B., was promoted to Vice-Admiral and Captain Barry E. Domville, C.B., C.M.G., A.D.C., to Rear-Admiral; Vice-Admiral Gilbert being placed on

the retired list to date 2nd July. Rear-Admiral W. A. H. Kelly, C.B., C.M.G., M.V.O., was promoted to Vice-Admiral, and Captain Colin K. Maclean, C.B., C.V.O., D.S.O., A.D.C., to Rear-Admiral, from the same date. A number of promotions were also made on the Retired List.

**FURTHER CHANGES.**—On 2nd August, the Admiralty announced that Admiral Sir Lewis Clinton-Baker, K.C.B., K.C.V.O., C.B.E., had been placed on the retired list, at his own request, to date 1st August, from which date Vice-Admiral Sir W. H. Cowan, Bt., K.C.B., D.S.O., M.V.O., was promoted to Admiral, Rear-Admiral P. M. R. Royds, C.B., C.M.G., to Vice-Admiral, and Captain A. H. Alington, A.D.C., to Rear-Admiral. Vice-Admiral Royds being placed on the retired list, to date 2nd August, Rear-Admiral L. C. S. Woollcombe, C.B., M.V.O., was promoted to Vice-Admiral, and Captain (Commodore 2nd Class) Wilfred Tomkinson, C.B., M.V.O., A.D.C., to Rear-Admiral, to date 2nd August. Rear-Admiral Alington was also placed on the retired list from this date, promoting Captain H. W. Longden, C.M.G. A.D.C. From 3rd August Vice-Admiral Woollcombe was placed on the retired list, and Rear-Admiral J. W. L. McClintock, C.B., D.S.O., was promoted to Vice-Admiral, and Captain J. C. W. Henley, C.B., A.D.C., to Rear-Admiral. From 3rd August also, the retirement, at his own request, of Rear-Admiral H. W. Longden gave promotion to Captain E. Astley-Rushton, C.B., C.M.G., A.D.C., to Rear-Admiral.

**NEW ADMIRAL OF RESERVES.**—Vice-Admiral Arthur A. M. Duff, C.B., was selected to be Admiral Commanding Reserves, in succession to Admiral Sir Lewis Clinton-Baker, to date 1st August.

**CHATHAM DOCKYARD.**—On 6th July, it was announced that the appointment had been approved of Rear-Admiral Anselan J. B. Stirling, C.B., to be Admiral-Superintendent of Chatham Dockyard, in succession to Rear-Admiral Charles P. Beaty-Pownall, C.M.G., to date 7th December, 1927. Rear-Admiral Stirling was promoted to flag rank on 9th August, 1926, while Commodore-in-Charge at Hong Kong.

**NEW GENTLEMAN USHER.**—On 7th May, the appointment was announced of Rear-Admiral Arthur Bromley, C.M.G., to be a Gentleman Usher to His Majesty the King. Rear-Admiral Bromley served on the active list from 1892 to 1922. He was promoted to Commander in 1908, from the Royal Yacht, and to Captain in 1915, from the battle-cruiser "Indefatigable." His last command was the cruiser "Raleigh," as Flag-Captain to Vice-Admiral Sir William Pakenham.

**EGYPTIAN PORTS AND LIGHTS.**—On 4th July, it was officially announced from Cairo that Rear-Admiral George N. Tomlin, C.M.G., M.V.O., had been appointed Director-General, Ports and Lighthouses Administration, Egypt, in succession to Captain Philip Streatfield, M.V.O., resigned. Captain Streatfield had held the post since June, 1920, when he succeeded Rear-Admiral Sir Henry Russell Robinson.

#### PERSONNEL.

**AWARDS FOR SERVICES AT WANHSIEN.**—The *London Gazette* of 6th May last announced the award of honours to officers and men of the Royal Navy and Mercantile Marine in recognition of their services at Wanhsien, Yangtse River, China, on 5th September, 1926. Included in the list were:—

#### O.B.E. (Civil).

Captain Albert Robert Williamson, D.S.C., Mercantile Marine, H.M.S. "Kiawo." Handled his ship most ably when taking her from alongside the s.s. "Wanhsien" to s.s. "Wantung" under heavy fire, to rescue the latter's Captain.

Captain Stuart Harcourt Bates, Mercantile Marine, s.s. "Wantung." Displayed considerable courage in very dangerous circumstances.

Lieutenant-Commander William Goggan Lalor, R.D., R.N.R., s.s. "Wanliu." His action in enforcing the legitimate rights of the ship under his command required great courage, whilst his services in promptly taking a relief ship with a naval crew from Ichang to Chungking during the disturbance in 1925, when Chinese crews and pilots deserted, was most valuable and praiseworthy.

Chief Engineer Horace Kingswood, Mercantile Marine, H.M.S. "Kiawo." Exceptional services in charge of the engine and boiler room of H.M.S. "Kiawo."

#### D.S.C.

Lieutenant Jack Peterson, R.N., H.M.S. "Kiawo." For special gallantry and leadership of the after boarding party from H.M.S. "Kiawo."

Captain Alexander Craig Thomson, Mercantile Marine, s.s. "Wanh sien." Held the bridge of the s.s. "Wanh sien" until the arrival of H.M.S. "Kiawo." Later showed considerable bravery in returning without escort to recover the s.s. "Wanh sien" and "Wantung." It was largely due to his initiative, enterprise and good seamanship that the s.s. "Wanh sien" which could not raise steam, was brought away lashed alongside the s.s. "Wantung."

#### C.G.M.

Petty Officer Frederick William Warburton, H.M.S. "Kiawo." Showed conspicuous courage and fearlessness and took command of the boarding party after Lieutenant A. R. Higgins, R.N., was killed.

Able Seaman Clifford Beese, H.M.S. "Kiawo." For conspicuous courage amongst the survivors of the boarding party.

#### D.S.M.

Petty Officer William Thomas Bourne, H.M.S. "Cockchafer." Was at the wheel during the action when Lieutenant-Commander L. S. Acheson, D.S.C., R.N., his commanding officer, was wounded and unable to stand. His personality throughout was of great moral and practical value.

Able Seaman William Kell, H.M.S. "Kiawo." Able Seaman Francis Herbert Image, H.M.S. "Kiawo." Ordinary Seaman Joseph Baldock, H.M.S. "Kiawo." The remaining surviving members of the boarding party, who acted with courage and resource in extremely trying circumstances.

The following officers were mentioned in despatches:—

Commander Frederick Campbell Darley, R.N. (Killed), H.M.S. "Kiawo." Organized the expedition, acted with considerable gallantry and by personal example instilled enthusiasm in all the officers and men under his command in H.M.S. "Kiawo."

Commander Paul Felix Palmer Berryman, R.N., H.M.S. "Widgeon."

Lieutenant-Commander (now Commander) Leon Stopford Acheson, D.S.C., R.N., H.M.S. "Cockchafer."

Lieutenant Oliver Fogg-Elliot, R.N., H.M.S. "Kiawo."

Lieutenant Alfred Rowland Higgins, R.N. (Killed), H.M.S. "Kiawo."

Lieutenant Christopher Frederick Ridge, R.N. (Killed), H.M.S. "Cockchafer."

Twenty-one naval ratings were also mentioned.

STAFF COURSE, 1927.—The following officers have been selected to undergo the Staff Course commencing at the R.N. Staff College, Greenwich, on 27th September, 1927:—

*Commanders.*—G. C. C. Crookshank, J. F. Paget, C. H. Champness, W. G. Tennant, M.V.O., A. W. S. Agar, V.C., D.S.O., L. V. Morgan, M.V.O., D.S.C., L. F. N. Ommanney, C. F. Hammill, T. B. Fellowes, C. R. McCrum, D. C. Lang.

*Lieutenant-Commanders.*—D. C. G. Shoppee, D.S.C., S. Barry, A. L. Besant, W. H. D. Friedberger, A. S. Russell, C. H. Drage, A. D. Nicholl, R. V. Symonds-Taylor, D.S.C., G. M. B. Langley, O.B.E., S. E. Norfolk, J. S. Cowie, C. P. Clarke, T. C. T. Wynne, L. W. Murray, R.C.N.

*Lieutenants.*—J. D. Prentice, V. A. T. Ramage, R.A.N.

*Captains, R.M.*—F. R. Jones, L. C. Hollis.

**BERTRAND STEWART PRIZE ESSAY**—SUBJECT.—An Admiralty Order states that the subject selected for the Bertrand Stewart Prize Essay for next year is as follows :—"Amphibious Warfare. Refer briefly to its prevalence in our past wars; discuss its probability in the future and the best methods of meeting our requirements in this form of warfare."

**AWARD OF PRIZES.**—The award of the following prizes was announced in Fleet Orders during the past quarter :—

*The Commander Egerton Memorial Prize* for the year 1927 has been awarded to Lieutenant J. C. Clouston, R.N.

*Advanced Gunnery Course Prizes.*—Prizes of £10 have been awarded to each of the undermentioned officers, on the result of the final examination held on completion of the Advanced Gunnery Course at the R.N. College, Greenwich, in March last.

Lieutenant T. A. C. Pakenham, R.N., Lieutenant R. G. Mackay, R.N., H.M.S. "Excellent."

*The Ronald Megaw Memorial Prize* for 1926-27 has been awarded to Lieutenant J. D. M. Robinson, R.N., H.M.S. "Canterbury."

*The Beaufort and Wharton Testimonials* for the year 1926 have been awarded to Lieutenant E. H. Thomas, R.N., H.M.S. "Colombo."

**LIEUTENANT-COMMANDERS' RETIREMENTS.**—The special retirement scheme for officers of the rank of Lieutenant-Commander of and over the age of forty years on 31st December, 1926, was closed on 17th June. The number of officers who availed themselves of its provisions was sixty-six.

#### MATERIAL.

**H.M.S. "NELSON."**—The new battleship "Nelson" left the Tyne to carry out her official trials from Portsmouth on 22nd April, and returned to the Armstrong yard on 6th June. Her gunnery trials were carried out on 2nd June, ten miles south of Portland Bill, in the presence of the Second and Third Sea Lords, Vice-Admirals Sir Hubert Brand and Sir Alfred Chatfield. The "Nelson" is due for delivery to the Navy in August, when she will replace the "Revenge" as flagship of the Commander-in-Chief, Atlantic Fleet.

**THE NEW CRUISERS.**—The first of the new 10,000-ton cruisers authorized in 1924, H.M.S. "Suffolk," was commissioned at Portsmouth, on 1st July, for trials, by Captain Niel O'Neill, late of the "Impregnable." Revised dates for the completion of the five ships of the class are : "Suffolk," November; "Berwick," at the Fairfield yard, Govan, July; "Cornwall," at Devonport Dockyard, October; "Cumberland," at the Vickers yard, Barrow, November; and "Kent," at Chatham Dockyard, February, 1928.



H.M.S. "OBERON."—The submarine "Oberon" was finished on 21st June, at Chatham Dockyard, where she was laid down in March, 1924. The last submarine to be designed while Sir E. H. Tennyson d'Eyncourt was Director of Naval Construction, and the first to receive a name under the new scheme, the "Oberon" is of 1,345 tons displacement (1,805 tons submerged), and is therefore about half the tonnage of "X.1," completed in 1925, and now serving with the First Flotilla in the Mediterranean, but she embodies an appreciable advance upon the "L" class, the last built for general service, and begun in 1917-18.

#### EXERCISES AND CRUISES.

ATLANTIC FLEET.—Independent exercises, from Portsmouth, Portland, Port Edgar and Invergordon, were carried out by Atlantic Fleet ships during the period 2nd to 20th May. All ships then assembled at Invergordon for general practices until 3rd June. Independent cruises were then carried out, including a visit to the Baltic and Scandinavian ports by the Second Cruiser Squadron and Fifth Destroyer Flotilla. The Second and Third Battle Squadrons, and the Battle-Cruiser Squadron, separated for independent visits to Kirkwall, Loch Ewe, Ballachulish, Campbeltown, Oban, Lamlash, Portree, Helensburgh, Stornoway, Portrush, Rothesay, Bangor, Londonderry, and other places on the western side of the United Kingdom, and returned to Weymouth by 2nd July, for the annual pulling regatta. Summer leave is being granted, first watches from p.m. 27th July to a.m. 11th August; and second watches from p.m. 11th August to a.m. 26th August.

MEDITERRANEAN FLEET.—Owing to the situation in Egypt, the battleships "Barham" and "Malaya" went to Alexandria on 1st June, and the "Royal Sovereign" to Port Said, remaining there until 20th June and 16th June respectively. The summer cruise of the Mediterranean Fleet began on 27th June, when the ships left for Navarin, to remain there until 12th July. Visits to certain Greek ports which had been planned did not take place, but those to Turkish ports and Argostoli remained unchanged. The cruise was to end on 19th August.

NORTH AMERICAN SQUADRON.—The "Calcutta" and "Capetown" left Bermuda on 28th June, for the Atlantic and Pacific coasts of Canada respectively, the later *via* the Panama Canal. The "Capetown," which had returned home to re-commission on 1st July, was to leave Bermuda on 27th July and rejoin the flagship in St. George's Bay, Newfoundland. The sloops "Heliotrope" and "Wistaria" cruised in the northern part of the station, the latter being placed at the disposal of the Governor of Newfoundland during July and August. The "Cairo" and "Heliotrope" visited Bar Harbour, Maine, U.S.A., from 30th July to 8th August.

#### FLEET AIR ARM.

H.M.S. "COURAGEOUS."—Paid off into dockyard control at Devonport on 27th June, 1924, the cruiser "Courageous," which is being converted into an aircraft-carrier, is due to be finished in January, 1928. The estimated total cost of the work is given in the Navy Estimates as £2,025,800, compared with a first cost of the ship of £1,785,940. Captain Aubrey Lambert was appointed to the "Courageous" on 17th March, and for duty with her sister-ship, the "Glorious," which is likewise undergoing reconstruction. Five new flights, equal to two and a half squadrons, are being formed for the "Courageous," when the strength of the Fleet Air Arm will be increased to twenty-three flights.

**FLEET AIR ARM TELEGRAPHISTS.**—The Navy Welfare Conference of 1926, requested that naval telegraphist ratings serving in the Royal Air Force be employed in accordance with their conditions of entry into the Royal Navy; and that a decision might be given as to their duties when not employed on wireless work. The decision of the Admiralty, promulgated on 1st July, is: "These ratings are not to be employed on duties unconnected with their trade, with the sole exception of guard duty."

(See also AIR NOTES, p. 673).

### ROYAL NAVAL RESERVE.

**NEW COMMODORE.**—Captain William Marshall, C.B., D.S.O., R.D., A.D.C., was promoted to be Commodore, 2nd Class, in the Royal Naval Reserve, to date 2nd June. This rank was first granted in 1915 to Sir Richard Williams-Bulkeley, then in command of the R.N. Depot at the Crystal Palace; and later in the war it was held by Sir Frederic W. Young, head of the Salvage Section. Both these officers, however, were on the list of honorary officers of the R.N.R.

Under the revised regulations for the force issued in 1921, the rank may be granted to a few of the senior Captains on the active or retired lists in recognition of good service. Captain Marshall is the only one holding it on the active list, upon which he is the senior officer.

### ROYAL NAVAL VOLUNTEER RESERVE.

**NEW COMMODORE.**—The promotion is announced, from 2nd June, of Captain Henry D. King, C.B., C.B.E., D.S.O., V.D., M.P., to be Commodore, 2nd Class, in the Royal Naval Volunteer Reserve. The only previous promotion of this kind was that, on 12th October, 1921, of Captain the Duke of Montrose, who retired at his own request on 1st April, 1927. Commodore King, an old "Conway" cadet and formerly midshipman in the R.N.R., joined the R.N.V.R. in 1904, and took command of the London Division in 1920.

**EAST SCOTTISH DIVISION.**—Commodore the Duke of Montrose, C.B., C.V.O.; V.D., R.N.V.R., retired from command of the Division on the 1st April, 1927, after twenty-three and a half years' service. He is succeeded in his command by Captain W. M. Smail, V.D., R.N.V.R.

**CLYDE DIVISION.**—The Annual Church Parade was held on the 1st May. Service afterwards at Glasgow Cathedral. Twelve officers and 221 ratings attended.

A guard of honour was provided on the occasion of H.M. The King's visit to Glasgow on the 12th July.

**SUSSEX DIVISION.**—A Guard of Honour was provided on the occasion of H.R.H. The Prince of Wales's visit to Hastings to open the White Rock Pavilion on the 6th April. The guard was in command of Lieutenant-Commander J. Bray, R.N.V.R.

**U.S.S. "Detroit,"** flying the flag of Vice-Admiral Burrage, U.S.N., visited Hastings on the 25th and 26th June. A signal station was organized on the pier by Nos. 5 and 6 Sub-Divisions during her stay and proved of invaluable assistance.

**LONDON AND SUSSEX DIVISIONS.**—Officers and ratings from these Divisions embarked in H.M.S. "Champion" for a short Easter Cruise.

**TYNE DIVISION.**—The Northumberland Rifle Association Meeting was held at Ponteland on the 4th, 5th and 6th of June, at which the R.N.V.R. were represented.

Sub-Lieutenant A. B. Westmacott, R.N.V.R., won the "Chipchase" Cup and the Recruits' Medal, was second in the "Morpeth" and in the "Association," had the third best County aggregate and was third in the Territorial Force Rifle Championship of Northumberland. The R.N.V.R. team won the Co-operative Union Challenge Cup contest.

On the 12th June, contingents from H.M.S. "Satellite" and H.M.S. "Helicon," preceded by their band and buglers, held the annual Church Parade at St. Thomas's Church, Newcastle.

The Lord Mayor, Sheriff and members of the Corporation inspected the R.N.V.R. afterwards. The parade then marched to the War Memorial in Eldon Square, where a wreath was laid by Captain H. J. Craig, V.D., R.N.V.R., Commanding Officer of the Division.

ULSTER DIVISION.—On the 24th May a procession of various Forces through the City of Belfast was led by the Band of H.M.S. "Caroline" and a detachment of 150 ratings from the Division.

### ROYAL MARINES.

RETIREMENTS, PROMOTIONS, ETC.—*Retirement*.—General St. G. B. Armstrong, C.B., C.M.G., on account of non-service, 16th June, 1927.

*Promotions*.—Lieut.-General Sir A. R. H. Hutchison, K.C.B., C.M.G., D.S.O., Adjutant-General, R.M., to General, *vice* Armstrong, 16th June, 1927. Major-General L. S. T. Halliday, V.C., C.B., to Lieut.-General, *vice* Hutchison, 16th June, 1927. Colonel Commandant R. C. Temple, C.B., O.B.E., to Major-General, *vice* Halliday, 16th June, 1927. Colonel 2nd Commandant C. L. Mayhew, to Colonel Commandant, *vice* Temple, 16th June, 1927. Lieut.-Colonel G. Carpenter, O.B.E., D.S.C., to Colonel 2nd Commandant, *vice* Mayhew, 16th June, 1927.

H.M. The King has been graciously pleased to appoint Colonel Commandant P. Molloy, A.D.C., *vice* Temple, 16th June, 1927.

COMMAND IN CHINA.—Lieut.-Colonel L. C. Lampen was in June appointed to succeed Colonel George Carpenter, O.B.E., D.S.C., in command of the 12th Royal Marine Battalion in China, on the latter officer's promotion. Lieut.-Colonel Lampen entered the Royal Marines in 1897, and attained his present rank in June, 1924, after serving as intelligence officer and brigade major. He was promoted brevet lieutenant-colonel for his services during the late war, in which he served as G.S.O.L. in the Mediterranean and Plymouth Commands.

CANDIDATES FOR STAFF TRAINING.—In a Fleet Order dated 24th June, 1927, it is stated that officers of the Royal Marines are eligible for the Royal Naval Staff Course, and should forward their applications to the Adjutant-General, Royal Marines, through the usual channels, at any time after reaching five years' seniority as Lieutenant, Royal Marines. Previously, the Rule was that Marine Officers might apply after the age of twenty-five.

PRESENTATION OF A BULLDOG TO THE UNITED STATES CORPS OF MARINES.—In February, 1927, Mr. A. C. Mowbray, an Englishman resident in America wrote to the Adjutant-General, Royal Marines, suggesting that as the Regimental Pet of the U.S. Corps of Marines was dead, it would be an excellent opportunity for Royal Marines to present another to replace it.

The Adjutant-General, Royal Marines, wrote to the Major-General Commandant J. A. Lejeune, U.S. Marine Corps, to ask if such a presentation would be acceptable and received a reply to the effect that it would be a real pleasure for the U.S.

Marines to receive their new mascot from the Royal Marines, and that such a presentation would form an additional entry in the log of friendship that already exists between the two bodies of men.

A white pedigree Bulldog, known as "Pride of Field," was purchased. This dog is reputed by Mr. S. H. Deacon, in a recent article in the "Dog World," to be one of the best twenty dogs in England.

"Pride of Field" was re-named and re-registered as "Private Pagett," a Royal Marine character immortalised by Colonel W. P. Drury in his books.

Private Pagett sailed in s.s. "Leviathan" on 21st June, and according to *Reuter* was met on arrival at Washington by Mr. Wilbur, Secretary of the Navy, and Major-General Commandant Lejeune, U.S. Marine Corps.

### DOMINION NAVIES.

**LAUNCH OF H.M.A.S. "CANBERRA."**—The second of the two cruisers for the Royal Australian Navy, building on the Clyde, was launched on 31st May, when the christening ceremony was performed by Princess Mary, Viscountess Lascelles, who named the ship "Canberra," after the name of the new Australian capital. Sir Joseph Cook, High Commissioner for Australia, expressed the gratitude of the Australian people to the Princess for coming to launch the ship. Built to conform with the standard laid down at Washington in 1922, the "Canberra" was ordered in March, 1925, and is of 10,000 tons displacement, and 90,000 horse-power. The propelling machinery consists of geared turbines driving four screws, obtaining steam from oil-fired Yarrow water-tube boilers, and the sea speed is to be about 32 knots. The armament includes eight 8-in. guns and four 4-in. high-angle guns, supplemented by deck torpedo tubes.

**CRUISE OF H.M.A.S. "SYDNEY."**—After taking part in the reception of the Duke and Duchess of York at Fremantle from 18th to 23rd May, the "Sydney" left for a cruise round the North of the Continent, probably the last she will make before being scrapped on the completion of the new cruisers. She visited Geraldton, Broome, Napier Broome, Wyndham, Koepang, Dilhi, Bynoe, Darwin, Thursday Island, Kemp Rock, Flinders Group, Cairns, Newcastle, and returned to Sydney on 5th July.

**NEW ZEALAND PROPOSALS.**—In April, the New Zealand Government put forward proposals for a substantial increase in their Naval Defence vote. The sum of £1,000,000 will be paid to the British Government as a contribution towards the cost of the Singapore base, spread over seven or eight years. When it is necessary to withdraw the two existing cruisers, their places will be taken by two "B" class cruisers of 8,400 tons, at an estimated annual cost of £300,000 each, as compared with £230,000 for a "D" class cruiser. Meantime, alterations will be made in the equipment and plant of the New Zealand naval base as required for the upkeep of "B" class cruisers. A telegram expressing warm appreciation of the measures proposed was sent to the New Zealand Premier by Mr. Baldwin.

**CANADIAN WARSHIPS FOR SALE.**—Tenders were called for in May by the Canadian Salvage Office for the purchase of the light cruiser "Aurora," and submarines "C.H.14" and "C.H.15," which were presented to Canada by the Admiralty after the war, but have been out of commission for some time.



**FOREIGN NAVIES.****ARGENTINE.**

**NEW CONSTRUCTION.**—With reference to the steps to be taken to modernize the Argentine Navy, recorded in the *JOURNAL* of February last, orders for two cruisers, reported to be of 6,200 tons each, have been placed with Orlando Brothers, Leghorn, Italy. Two flotilla leaders are being purchased from Spain, the "Churruca" and the "Alcala Galiano." These are sister vessels of 1,650 tons, with a nominal speed of 36 knots.

The "Churruca" has already carried out her trials, and is said to have attained a speed considerably in excess of the designed speed. The "Alcala Galiano" should be completed by the latter part of this year.

It has also been announced in the Press that an order, understood to be valued at about a million sterling, has been placed by the Argentine Government with Messrs. J. Samuel White & Co., of East Cowes, for the construction of three flotilla leaders of the latest type.

In addition to these vessels and two sloops to be built by Hawthorn Leslie, orders are also to be placed for three submarines and two tugs; it is considered likely that the former will be built in France and the tugs in this country.

**FRANCE.****NEW CONSTRUCTION.**

**LAUNCH OF 10,000 TON CRUISER.**—The cruiser "Suffren," the third of the 10,000 ton class, laid down in the late summer of 1926, was launched at Brest on 3rd May, 1927, in the presence of M. Georges Leygues, Minister of Marine.

Although generally similar to the first two 10,000 ton cruisers, the "Duquesne" and "Tourville," laid down in 1924 and 1925 respectively, the "Suffren" will differ from them in certain particulars. She is nineteen feet shorter and will have a light protective belt abreast the engine and boiler rooms. There will be two catapults instead of one and she will carry three seaplanes instead of two. With engines of 130,000 shaft horse-power, her radius of action will be 5,000 miles at a speed of 15 knots. The maximum speed will be rather less than the 34 knots estimated for the two previous ships. The "Suffren" also has three screws, as against four in the other vessels, and will carry coal as well as oil to give additional protection.

**FOURTH 10,000 TON CRUISER LAID DOWN.**—On 12th June, the keel-plate of the "Colbert," the fourth of the 10,000 ton cruisers, was laid down by M. Leygues at Brest. This vessel also will have improved protective qualities on those of her predecessors.

**AIRCRAFT CARRIERS.**—The newly completed aircraft carrier "Béarn" has reached the stage of trials.

The aviation transport "Commandant Teste" is being constructed by the Chantiers de la Gironde and should be ready for service early in 1928. The principal details of this ship are as follows:—Displacement 9,840 tons; length 525 ft.; breadth 71 ft. 6 in.; draught 23 ft. 6 in. Horse-power 21,000; speed 20.5 knots.

**CRUISER-MINELAYER.**—Particulars of the new cruiser-minelayer "Ruton" have now been made public. The principal details are:—Displacement 5,215 tons; length 472 ft. 5 in.; breadth 51 ft.; draught 17 ft. 1 in. Horse-power 57,000;



speed 30 knots. Armament: four 5.4 in; ten 37 mm. (A.A.). The number of mines carried is not known.

**FLOTILLA LEADERS.**—The "Lynx" and "Leopard" have successfully completed steam trials; the former obtaining a speed of 35.5 knots during her eight-hour trial.

**DESTROYERS.**—The new destroyers "L'Adroit," "Sirocco," "Tramontane," "Tornado," "La Palme," "Mistral" and "La Railleuse" have all been running trials during the past quarter.

#### PROPAGANDA CRUISES.

It is evident that the French authorities are alive to the importance of "showing the flag." In addition to the visit of a squadron to Portsmouth, early in June, French warships recently visited Constantinople and Constanza. At the Turkish capital two officers from the visiting squadron lectured at the Staff College on submarines and gunnery, and at the latter port Rumanian officers were taken out in French submarines.

The "Lamotte-Picquet" and "Jaguar" left Brest on 7th June for a cruise to the West Indies and East Coast of South America.

**CRUISER FOR CHINA.**—The new 7,870-ton cruiser "Primauguet," which was originally announced to be a unit of the squadron to visit Spithead with Rear-Admiral Piot, was ordered to China before that visit took place, and called at Colombo in May, and Singapore in June. She is intended to reinforce the French Naval Division at Shanghai. One of her aircraft flew ahead to Saigon the day before the ship herself arrived.

#### GERMANY.

**PLEA FOR SUBMARINES.**—In view of the situation in regard to submarines belonging to the Baltic Powers, Germany is formulating a request to be allowed to resume the construction of these craft, which is denied her by the Treaty of Versailles. Finland, Latvia and Poland are each represented to be acquiring submarines, and in view of this development, Germany is anxious to regain the right to build them.

**CRUISER "B".**—With reference to the announcement of the launching of the "Königsberg" in last quarter's NOTES, this ship should have been described as Cruiser "B" of the 1925 category, originally named "Karlsruhe." Cruiser "C" is one of the two vessels laid down in 1926 and not yet launched.

#### GREECE.

**RETURN OF THE "AVEROFF".**—The cruiser "Averoff" has returned to the Piræus, having carried out satisfactory trials after being re-conditioned by the Chantiers de la Méditerranée, Toulon.

#### ITALY.

**NEW CONSTRUCTION.**—It is reported that the projected building programme, includes two more 10,000 ton cruisers and an unspecified number of 2,000 ton flotilla leaders and 300 ton submarines.

**RECORD SPEED TRIALS.**—The new destroyers "Quintino Sella" and "Francesco Crispi," of 1,150 tons, 36,000 horse-power, and designed for 36 knots, are reported to have exceeded 39 knots on their official trials, without the use of all their boilers.

**JAPAN.****NEW CONSTRUCTION.**

**REPLACEMENT PROGRAMME.**—The original Replacement Programme has been slightly reduced and the date of completion extended to 1931-32. It now makes provision for:—

- 4 Cruisers.
- 15 Destroyers of 1,700 tons.
- 4 Submarines.
- 1 Aircraft tender.
- 2 River gunboats.
- 1 Minelayer.

This is, in effect, a reduction of one destroyer and one submarine and their loss will be compensated for by an increase in tonnage of those being built.

**LAUNCH OF THE "NACHI."**—The second of the Japanese 10,000 ton cruisers the "Nachi," laid down in 1924, was launched at Kure on 15th June, two months after her sister-ship, the "Myoko." Two other ships of similar design, the "Ashigara" and "Haguro," were laid down in 1925 and are approaching the launching stage.

**LATVIA.**

**NEW SUBMARINES.**—Two submarines, "Ronis" and "Spinandola," the first to be built for the Latvian Navy, have been completed by the Ateliers et Chantiers de la Loire during the past quarter and handed over to their crews. Details are:—Displacement (surface) 400 tons; speed 14 knots (surface), 9 knots (submerged); armament: one 2.9 in. gun and six 17.7 in. torpedo tubes.

**PORTUGAL.**

**RECONSTRUCTION PROGRAMME.**—A Bill has been prepared for submission to the Council of Ministers by the Minister of Marine for the modernization of the fleet. In the event of this measure being passed, thirty vessels, including light cruisers, destroyers and submarines, will be purchased abroad. The Portuguese Fleet has not received any new units for some years. Its most modern vessels, apart from torpedo craft, are the ex-British sloops "Gladiolus" and "Jonquil," launched in 1915, purchased in 1920, and re-named the "Republica" and "Carvalho Araujo."

**SPAIN.**

**ESTIMATES FOR 1928.**—The Naval Estimates for the coming year include 177 million pesetas for the construction of:—

- 2 Cruisers.
- 3 Destroyers.
- 2 Submarines.

and for improving establishments at Vigo, Cartagena and Mahon.

**NAVAL AVIATION.**—The Spanish naval authorities are devoting considerable attention to the development of flying training and the use of aircraft for the fleet.

The Naval Flying School at Prat de Uobregat is commanded by a Captain and is reported to be well equipped technically and to have an up-to-date meteorological office. The work includes ground target bombing, machine gun firing, and torpedo running from aircraft.

Naval officer pupils are selected from a great number of volunteers and, at present, are appointed to Prat as they would be to a ship, but it is proposed that, in future, they should do their initial flying training in civil schools, as Army pilots do already; afterwards they will go to a Naval School of Applied Aeronautics for advanced flying. This will be moved from Prat to Mar Menor Cartagena, the former place becoming a technical aircraft establishment.

#### SWEDEN.

**NAVAL REPLACEMENT PROGRAMME.**—The Swedish Government has now adopted the essentials of the Replacement Programme, proposed by the Naval Committee, and summarised in the May JOURNAL, as regards the first period from 1927-33, and has approved them in principle as regards the second period from 1933-38.

The Bill embodying these proposals was passed by the Riksdag early in May. It makes provision for building during the first period, one hangar cruiser, two destroyers, four vedette boats and three submarines; also for getting out designs for a new coast defence vessel of an improved "Sverige" class.

#### TURKEY.

Two days' manœuvres were carried out at the end of May by a squadron, consisting of the "Hamidieh," "Berk-I-Satret," "Peik-I-Sherket," "Samsoun," "Bassra" and "Tashoz." They appear to have been completed without mishap.

The Turkish Government is reported to have approved a building programme, to be spread over ten years, to include patrol boats, destroyers and submarines.

#### UNITED STATES.

**NEW YORK ASSEMBLY.**—On 29th April, 122 warships of the United States Fleet, under Admiral Charles F. Hughes, anchored off New York, at Staten Island, in the Hudson River, the East River, and at the Navy Yard, Brooklyn. The gathering was said to comprise the largest aggregation of warships which had entered the port of New York. The fleet was manned by 13 flag officers, 2,264 other officers, 28,637 ratings, and about 1,000 marines. It included 11 battleships, 60 destroyers, 1 armoured cruiser, 3 light cruisers, 10 submarines, 1 aircraft tender, 3 submarine tenders, 3 minesweepers, 6 minelayers, and 24 supply and auxiliary vessels. During the two weeks the fleet was at New York, there was a round of entertainments for officers and men, and many thousands of the population had an opportunity to visit the ships.

**BATTLESHIP AGROUND.**—In the course of the Fleet assembly, the battleship "Colorado," went aground on Diamond Reef, midway between the Battery and Governor's Island. The vessel was refloated after being lightened by the removal of oil fuel, ammunition, etc., having been aground for thirty-six hours.

## ARMY NOTES

### HOME.

**APPOINTMENTS AND PROMOTIONS.**—His Majesty the King has been pleased to approve of the appointment of Colonel C. R. Bakhle, Indian Medical Service, as Honorary Physician to the King, in succession to Colonel J. H. McDonald, Indian Medical Service who has retired.

The following appointments are announced :—Lieut.-General Sir H. C. C. Uniacke, K.C.B., K.C.M.G., to be Lieutenant of the Tower of London, in succession to Lieut.-General Sir C. D. Shute, K.C.B., K.C.M.G., appointed General Officer Commanding-in-Chief, Northern Command, (15th May, 1927). Major-General A. R. Cameron, C.B., C.M.G., to be General Officer Commanding, 4th Division, in succession to Major-General Sir P. P. de B. Radcliffe, K.C.M.G., C.B., D.S.O., promoted; Major-General C. Bonham-Carter, C.B., C.M.G., D.S.O., to be Director of Staff Duties at the War Office, in succession to Major-General A. R. Cameron, C.B., C.M.G.; Major-General E. S. Girdwood, C.B., C.M.G., to be Commandant (Major-General, General Staff) of the Royal Military College, in succession to Major-General C. E. Corkran, C.B., C.M.G. (1st September, 1927).

**PROMOTIONS.**—Lieut.-General Sir Alexander R. H. Hutchison, K.C.B., C.M.G., D.S.O., Royal Marines, to be General; Major-Generals Sir Percy P. de B. Radcliffe, K.C.M.G., C.B., D.S.O.; Sir Edwin H. de V. Atkinson, K.B.E., C.B., C.M.G., C.I.E.; L. S. T. Halliday, V.C., C.B., to be Lieutenant-Generals.

The following Colonels have been promoted Major-General :—G. G. Loch, C.B., C.M.G., C.B.E., D.S.O.; E. Gibb, C.B., C.M.G., C.B.E., D.S.O.; G. A. Weir, C.B., C.M.G., D.S.O.; R. C. Temple, C.B., O.B.E.; S. E. Hollond, C.B., C.M.G., D.S.O.; C. A. Ker, C.B., C.M.G., C.B.E., D.S.O.

**CAVALRY DEPOT ABOLISHED.**—The Cavalry Depot, Canterbury, has been abolished. It is stated that arrangements have been made for all recruits enlisting for the cavalry of the line to be despatched direct from places of enlistment to the regiments at home with which they will undergo their recruit training. Cavalry personnel arriving from abroad, who would have been sent to the Cavalry Depot will be sent to cavalry regiments at home under instructions issued by the Officer in Charge of Cavalry Records, Canterbury.

**RE-ORGANIZATION OF ROYAL ARTILLERY.**—The Heavy Batteries, Royal Artillery, have been re-numbered in an unbroken sequence from No. 16 to No. 34, both numbers inclusive.

**DIVISIONAL AND INTER-DIVISIONAL TRAINING.**—(1) Although no Army Manœuvres are being held in 1927, the Military Manœuvres Act has been put into force in two separate areas in order to provide suitable training grounds for the Aldershot and Eastern Commands.

(2) For the Aldershot Command the area is in the Thames valley, the centre of the area is about Wallingford and the area is roughly Waddesdon-Aylesbury-Princes Risborough-West Wycombe-Stokenchurch-Nettlebed-Henley-Winkfield-Reading-Chieveley-Oxford-Islip.

In this area, 1st Cavalry Brigade will carry out Brigade Training from 24th August to 3rd September. After this, 1st and 2nd Divisions will carry out Divisional and Inter-Divisional Training from 6th September to 24th September, with 1st Cavalry Brigade co-operating.

During this latter period 1st Air Defence Brigade, Field Survey Company, Royal Artillery, and two medium batteries, Royal Artillery, will be included, besides 1½ A.C. Squadrons, Royal Air Force. During the Inter-Divisional training period another Army Co-operation Squadron, Royal Air Force, two day-bombing squadrons, Royal Air Force, one night-bombing squadron, Royal Air Force, and one fighting squadron, Royal Air Force, will also co-operate.

(3) The Eastern Command has been given an area in Kent, roughly Herne Bay-Sarre-Westbere-Little Bourne-Sandwich-Deal, thence coastline to Hythe, thence Royal Military Canal to Warehorne-Ashford-Canterbury-Whitstable.

The Command has lost its Army Co-operation Squadron, which has gone to China, so that it has been necessary to loan it two-thirds of No. 4 Army Co-operation Squadron, Royal Air Force, from the Aldershot Command. Brigade Training, with Battalion Training interspersed, will take place in this area from 3rd September to 17th September, followed by Divisional Training from 18th September to 26th September.

(4) Southern Command will train over the Government ground about Tidworth, Larkhill and West Down Artillery Ranges, and over private ground round Imber. It has not been necessary to put the Manœuvre Act into force over this area.

3rd Division with 2nd Cavalry Brigade co-operating will carry out Divisional Training in this area from 7th September to the 19th September.

(5) The Rhine Army Divisional Training is taking place about Wiesbaden and Bingen from 19th-30th September.

### TERRITORIAL ARMY.

**PROFICIENCY GRANT.**—By Army Order 134 of 1927, affecting Territorial Army Regulations, 1924, paras. 618a to 618p, a proficiency grant will be issued as follows :—Warrant Officers, N.C.O's., and men enlisting into or re-engaging in the Territorial Army on or after 1st March, 1927, will be eligible for a proficiency grant of 30/- annually. The grant will be in two parts :—

20/- for 20 Drills and 15 days' Camp .. .. .	} In the case of Trained Men.
or	
30 Drills and 8 days' Camp .. .. .	} In the case of Recruits.
The number of Drills prescribed in Appendix VIII, for each arm of the Service, and 15 days' Camp, .. .. .	
or	
10 Drills in excess of this number and 8 days' Camp .. .. .	

10/- for Musketry Qualification, or its equivalent in Arms, where there is no Musketry qualification.

Several paragraphs follow, all explanatory of the above Conditions.



**EXAMINATIONS OF OFFICERS FOR PROMOTION.**—It has been decided to raise the qualifying standard in all the practical examinations for the Promotion of Officers of the Territorial Army, Regular Army Reserve of Officers and Territorial Army Reserve of Officers, from .3 to .5 of the maximum marks allotted. This change will take effect from the 1st January, 1928; but the qualifying standard in the Territorial Army Officers' voluntary written examinations (Regular Army Papers) will remain at .3 of the maximum marks allotted.

### THE DOMINION FORCES.

**REGIMENTAL ALLIANCES.**—His Majesty the King has approved of the following regimental alliances :—

*Non-Permanent Active Militia of Canada.*—The Canadian Scottish Regiment to the Royal Scots (The Royal Regiment); The Prince Albert Volunteers to the Bedfordshire and Hertfordshire Regiment; The Halton Rifles to the Royal Ulster Rifles.

*Australian Military Forces.*—The 9th Light Horse Regiment to the 5th Inniskilling Dragoon Guards; The 1st Battalion, Australian Infantry, to the Royal Welch Fusiliers.

*Union of South Africa Active Citizen Force.*—The 8th Infantry (Transvaal Scottish) to the Black Watch (Royal Highlanders); The 12th Infantry (Pretoria Regiment) to the Royal Welch Fusiliers.

**CHAMPION SHOTS OF THE DOMINIONS.**—This year has seen a considerable improvement in the King's Medal Competition in the Dominions, not only in the results of the shooting but in the number of those competing.

In Australia, keen and increasing interest is taken in this event throughout the Dominion; and all ranks of the Permanent and Citizen Forces now send competitors. In this year's competition the two best shots of each District, included 1 Lieut.-Colonel, 1 Captain, 3 Lieutenants and 2 Sergeants of the Citizen Forces; and 1 Lieutenant of the Staff Corps and 4 Sergeant-Major Instructors. The winner, Staff Sergeant-Major D. Shearim, who scored 176, is an instructor at the Small Arms School in Australia. He has won many prizes at important rifle meetings throughout the country, and, after representing the Commonwealth at Bisley, went through a course at the Small Arms School, Hythe, before returning to Australia. The runner-up was also a Staff-Sergeant Instructor. Lieut.-Colonel Carre-Riddell, who was third, is Commandant, Royal Engineers, of the 3rd Division of the Australian Citizen Forces, and has always taken an interest in rifle shooting.

In New Zealand, the King's Medal for 1927 has been won by Lieutenant T. J. Denton, New Zealand Permanent Air Force, after a very keen competition. The popularity of the competition and the interest taken in it throughout the Dominion was shown in the very successful annual meeting of the New Zealand Army Rifle Association, held recently at Trentham.

In Canada, the clasp "1926" for the Champion Shot of the Dominion has been won by Corporal W. T. Livingstone, the Governor-General's Foot Guards, who had already won the medal in 1924.

In India, the King's Medal, with clasp "1926," for the Champion Shot of the Military Forces in India, has been won by Sergeant B. Cartwright, 1st Battalion, The South Staffordshire Regiment.

## FOREIGN.

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## CZECHOSLOVAKIA.

**MILITARY LEGISLATION.**—On 4th March, 1927, the Minister for National Defence communicated to the Press a summary of the various Military Bills to be dealt with during the Spring Session.

The Minister particularly mentioned the following :—

- (a) The Bill providing for the annual contingent and peace strength of the Army.
- (b) Draft Law for the formation of an "Ersatz Reserve."

As regards the first of these, the numbers of the conscripts with the colours are to be changed from 90,000 in the summer and 150,000 in the winter to 100,000 in the summer and 140,000 in the winter, the annual recruit contingent consisting of 70,000 men. Recruits are all called up together on 1st October of each year and serve for eighteen months. During the winter, therefore, there are two years' contingents serving together. During the summer the previous year's contingent (i.e., 70,000 men) only is serving. This number is brought up to 100,000 by calling up reservists (180,000 in 1927) for periods ranging from a fortnight to a month.

The Draft Law for the formation of an "Ersatz Reserve" has been talked of for some time, but hitherto the Foreign Department of National Defence has stoutly denied that the Ministry had any intention of putting such a Bill forward. The draft provides for :—

- (1) A period of three months with the colours for men having special claims to consideration (only sons of widows, etc.) ;
- (2) An annual quota of at least 8,000 men, and, if necessary, more ;
- (3) The selection of the men to be made by a mixed civil and military commission sitting at the same time as the calling-up of the annual class.

This will simplify the administrative machinery. Formerly 4,000 men annually were granted the privilege of serving for six months only—but their selection took place after enrolment. The 8,000 men now required for this reserve will be obtained from the annual class after the annual contingent of 70,000 has been selected. In 1925 the annual class provided 85,000 men fit for service.

When explaining the above draft law the Minister of National Defence took the opportunity of stating that there is no idea of introducing a system of "one-year volunteers."

## FRANCE.

**BURIAL OF FRENCH GENERALS IN THE INVALIDES.**—The French Government has decided that a number of the general officers of the Great War shall join the Marshals of France and other distinguished soldiers who are buried in the vaults of the Invalides near the tomb of Napoleon.

The first on this list is General Mangin, who died two years ago and at present buried in Montparnasse Cemetery. Among the other generals already dead who have been selected for this honour are de Maudhui, Humbert, Maistre, Maunoury, Nivelle, Lanrezac and Langle de Cary; these number seventeen. Places are also to be reserved for twenty-eight generals still living.

Arrangements have been made for the exhumation of the bodies of the dead commanders. They will all be re-interred together at a solemn ceremony.

*From a Press report.*

THE SUPERIOR WAR COUNCIL (*Conseil Supérieur de Guerre*).—Certain modifications have been made in the composition of the Superior War Council which is normally composed of :—

The Minister of War (President).

The Marshals of France.

A maximum of twelve generals (*généraux de division*).

All the above have the right to vote.

A Decree of 22nd May, 1926, allowed members to be chosen from amongst *généraux de division* who have served for at least one year as inspectors-general of an arm ; previously the choice was restricted to generals who had commanded a corps for at least one year, and who were designated for the command of an army or a group of armies on mobilization.

The intention was to strengthen the technical side of the Council.

A Decree of 12th May, 1927, makes the inspector-general of colonial troops, when he is at the same time the president of the advisory committee on the defence of the colonies, a member of the council with the right to vote. This Decree is based on the important part which the colonial forces are to play in the French re-organization scheme. For the time being the number of generals is thus increased to thirteen, but it is intended that twelve will be the normal maximum.

A Bill has been tabled, to give legal effect to a Decree of December, 1926, permitting generals on the council to be retained on the active list until the age of sixty-five, instead of retiring at sixty-two.

COMPULSORY PERIOD OF ENGAGEMENT FOR OFFICERS.—A Decree of 15th March, 1927, lays down that :—

Candidates for commissions, admitted to St. Cyr (which corresponds to R.M.C., Sandhurst) and to the Army Medical School, must sign an engagement to serve for a period of six years *after* leaving the schools.

Candidates who enter the Ecole Polytechnique (which corresponds in some ways to R.M.A., Woolwich) normally only engage to serve for one year after completion of their course. Under the above Decree, any candidates who are allowed to enter the Polytechnique above the normal age limit, on the condition of entering the Artillery or Engineers, will now also have to sign a similar engagement, for six years.

These provisions are presumably due to the shortage of officers, which is discussed in an article below. Prior to this Decree candidates only had to engage for three years, including time spent at the school.

The reason for the differentiation between St. Cyr and the Polytechnique is that the latter, besides training candidates for the Artillery and Engineers, educates a large number of candidates for the civil engineering profession ; if all candidates for the Ecole Polytechnique were forced to engage for six years in addition to their time at school, they would merely turn to other civilian institutions to obtain their training and a fertile source of regular and reserve officers would be lost.

THE SHORTAGE OF REGULAR OFFICERS.—“*L'Europe Nouvelle*,” of 26th March, 1927, contains a very pessimistic article on the present situation of the French Army as regards regular officers, under the title “*Grandeur et Servitude Militaires*.”

The article explains the existing *malaise* in the French officer corps as being due to their hard fight against financial difficulties, their feeling of having lost social caste, and to their lack of professional interest due to the existing disorganization of the Army.

The article then gives the following statistics:—

*Premature Retirement and Resignations.*

Since 1919, 12,000 officers have voluntarily left the Army, of whom 3,000 were Artillery and Engineer officers. This represents for these corps an average annual loss of 450, as opposed to 160 before the war. The number of medical officers leaving is two and a half times that of the pre-war years.

Those leaving are mainly the younger officers, who have been through the great military schools.

*The Recruiting Crisis.*

In 1926, only 163 candidates offered themselves for the written examination for the Staff College, and the examiners making use of the greatest indulgence declared that 103 had qualified. The examiners wished to accept 80 students, that is 50 per cent. of the candidates. In some pre-war years the proportion of candidates to vacancies was 10 to 1. This appears disquieting, if one considers the value of future staff officers and commanders.

The polytechnicians no longer wish to become officers. Before the war, each year produced 60 or even 80 artillery officers; in 1926, there were only 27, and of these some may leave after one year's service as an officer, after passing through the "Ecole d'application."

Thus each year it is necessary to recruit at least 141 Artillery officers from non-commissioned officer candidates for commissions. The actual figures of such candidates were: 1921, 91; 1922, 61; 1923, 26; 1924, 27; 1925, 23; 1926, 24.

Officer recruitment from warrant officers and sergeants is no easier. In 1926 the 7,382 warrant officers and sergeants in the Artillery provided only 91 candidates for commissions; the 830 warrant officers and sergeants of the "Train des équipages" only 5.

The situation is equally bad for the other arms. At St. Cyr there were, in 1926, only 734 candidates for 320 vacancies. From 1903 to 1906, the proportion varied between 5 to 1 and 4 to 1.

At Saint Maixent (cadet school for non-commissioned officer candidates for infantry and tanks) the situation is the same. In 1912, 40 per cent. of the candidates had obtained the University baccalauréat; in 1925, only 16 per cent.

The classes from which the students at St. Cyr and St. Maixent are drawn has altered considerably for the worse. Tables are given showing the professions of the parents of the students.

Engineers and Air Force have similar difficulties, and have to employ junior officers lacking in experience, whose work is far inferior to the pre-war standard.

For the medical service the situation is exceptionally serious. The selection of candidates is less severe, but even so the required numbers have never been obtained. Minor officials now send their sons to study medicine in the Army, owing to the small expense incurred, but many resign after their six years' engagement. The establishment of doctors and chemists is 1,977; the strength is 1,499.

As regards regular non-commissioned officers, the difficulties of recruiting lead to the engagement of personnel of doubtful value.

The number of battery commanders available is the strict minimum. The "Direction d'Artillerie" is unable to find polytechnicians to fill specialist appointments.

In units, the number of well-trained captains and lieutenants is infinitesimal; perhaps one lieutenant per regiment, one captain per two regiments. In the technical services, to replace senior officers of high educational attainments, the situation is not only grave, but distressing: 274 captains are required for estab-

lishments for the research and construction of modern weapons; only 123 with the requisite qualifications are available.

The "Europe Nouvelle" article then discusses at great length the existing financial difficulties of the French officer, and the reasons for his moral and intellectual *malaise*.

The proposed remedy is to pay the regular officer enough to live decently; the present pay, it is considered, should be doubled at least.

### RUMANIA.

**THE RUMANIAN CAVALRY.**—The following notes on the Rumanian cavalry are taken from an article which appeared in the April number of the French *Revue de Cavalerie* :—

1. *General.*—The Rumanian Army is relatively strong in cavalry, possessing twenty-one regiments of this arm as compared with sixty-six regiments of infantry. This tendency is accounted for by the necessity of being prepared for a possible war with Soviet Russia, whose army is particularly strong in cavalry, whilst Hungary, another potential enemy, could probably also raise a considerable cavalry force on mobilization. The nature of the country, the great length of frontier and the scarcity of good roads, all point to the necessity of Rumania being well provided with mounted troops.

2. *Organization.*—The Rumanian cavalry is organized in three divisions and one independent brigade, and there is normally no corps or divisional cavalry with infantry formations. Each division comprises three brigades of two regiments, a horse artillery group of three batteries, a cyclist company and auxiliary services. The headquarters of these three divisions are located at Arad, Jassy and Bucharest. The independent brigade, which is at Bucharest, consists of three regiments, one of which is the Royal escort regiment.

Regiments are either Rosiori or Calarasi. The former are regular hussar regiments, and their recruiting and terms of service are similar to those for the remainder of the Army. The Calarasi correspond to some extent to yeomanry units; the men provide their own horses and equipment, and are subject to special conditions of service. Of the three brigades in each cavalry division, two are composed of Rosiori regiments and one of Calarasi regiments.

3. *Training.*—Annual training is divided into three periods, February to June, September to October, November to January.

During the first period one month is devoted to individual training, two months to group and troop training, and two months to squadron training. July and August are the leave months, and personnel are sent away in two batches, each for one month.

The second period is taken up with regimental and brigade training, formations being concentrated in camps for this purpose.

The third period is devoted to the individual instruction of officers and non-commissioned officers preparatory to their work of training the next new contingent of recruits. Machine gunners and other specialists also receive particular attention during these months.

As regards training generally, French doctrine forms the basis of all the instruction given. The Rumanian Cavalry Regulations are entirely inspired by French manuals, whilst lectures and conferences held at the French Ecole de Guerre and at Saumur are translated and studied in the Rumanian Military Schools.



4. *Equipment and Remounts.*—The cavalry soldier is armed with a 65 mm. Mannlicher carbine and a sword, and in Rosiori regiments a lance is also carried. Machine guns of various types are in use, mainly Hotchkiss and Maxim. Saddlery and other equipment is also of a miscellaneous nature, comprising French, Austrian, English and Russian patterns.

The quality of the horses varies considerably in different districts. In the old kingdom horses are small and hardy, useful for transport work but hardly big enough for cavalry. In Transylvania, Bucovina and Bessarabia, on the other hand, an excellent type of light cavalry horse is obtainable. Theoretically, sufficient horses are available to provide for the requirements of the army on mobilization, but it appears doubtful whether the supply could be maintained in war, especially as Bessarabia might well be in the zone of active operations.

5. *Personnel.*—In general, the personnel, both officers and men, is of good quality. Service in the cavalry is popular, and the best recruits go to that arm of the service. The men are of hardy peasant stock, and are sober and frugal by nature. Moral and discipline are good, and both the severe training and the somewhat adverse material conditions are accepted without complaint.

To sum up, the cavalry may be considered as a *corps d'élite* which requires only to be better provided with arms and equipment in order to be fully capable of fulfilling the onerous duties which would fall to its lot in case of war.

## SPAIN.

### MILITARY REFORMS IN SPAIN.

(Compiled from various sources.)

Some far-reaching reforms are now in process of being applied to the Spanish Army. Ever since the war against the United States revealed some grievous shortcomings in the Spanish military organization, it had been obvious that the whole structure of that army was in need of drastic re-constitution. But vested interests and tradition continually stood in the path of any attempt towards modernization. A commission, instituted in 1921 for the purpose of applying some of the lessons of the Great War to the Spanish military organism, had reported on many serious defects. Nevertheless, it needed the failures of the Moroccan campaign to drive home the urgency of the case. Still nothing was done; conservatism was too strong. It was not until the mutiny of the Corps of Artillery, which took place in 1926, as a result of the Ministerial Decree introducing a system of promotion by merit in that privileged corps, that Army Reform became possible. This began, in the case of the Artillery, by only re-admitting the rebellious officers to their rank and office on new terms of service and into newly organized cadres. That step enabled the Government to eliminate several redundant Artillery appointments, to suppress certain units, and to re-arm some others, chiefly with howitzers.

The reforms, however, have been extended throughout the Army and have as their purpose :—

- (i) The reduction of superfluous personnel, chiefly of officers. 25 per cent. of the latter have been placed on half pay or otherwise reduced. The training colleges for cadets for army commissions have been remodelled and no cadet will be admitted to them for another one and a half years. In future there is to be one General Military Academy for boys, where they will undergo two years' general training. At the end of this period the pupils will select a branch of the Army for future service, and will then go for a further course of training to one of five special colleges ;

these will be located at Segovia for artillery; Toledo for infantry; Valladolid for cavalry; Guadalajara for engineers; and Avila for supply services.

- (ii) An attempt to centralize the control of the training of the Army. The old provincial tendency in Spanish life had been so strong in the past that the annual contingent of recruits was allotted to local garrisons without much reference to any methods of subsequent training. As a consequence there existed an excessive number of small garrisons with no definite establishment and no real military purpose. Under such a system modern combined training was virtually impossible. In future complete units of all arms will be stationed in military districts to which the annual contingent of recruits will be allotted in such a manner as to permit of some regular training. In similar fashion, officers and long-service N.C.O.'s will be distributed to these new units so as to permit of their being themselves kept up to the mark. At the same time the actual number of youths coming up for service annually will be selected on a stricter basis. Out of an available annual contingent of a quarter of a million about 75 per cent. will be taken. In addition, exemptions on the score of emigration will be recognized and granted in return for the payment of an annual tax.

On the same grounds the administration and supply of the Army is to be centralized; food and clothing will be arranged by districts. The old system whereby every article was purchased by independent local contracts is being swept away.

- (iii) The central authority is being reduced. The General Staff at the Ministry of War in Madrid has been dissolved and revived in two new and smaller sections of the Ministry. On the other hand, a specially appointed commission is undertaking a scheme for the virtual "mobilization" of the industries of the Peninsula for war.

The net result of these changes in Madrid is a reduction in personnel at the Ministry of War equivalent to over 25 per cent. of its former establishment.

In addition, the clothing of the Army is being altered. A field service dress has been approved and is being issued. This consists of a khaki-coloured double-breasted tunic, baggy breeches, and a wide Basque *beret*. The uniform will be universal, the regimental and other distinctions taking the shape of badges and trimmings.

In the case of the various arms the re-organization appears to aim at the mobilization of five first-line cavalry brigades and sixteen first-line infantry divisions.

The armament of the Artillery, distributed among sixteen Light Artillery regiments of varying establishments will consist of:

24—7.5 cm. guns, divided into six batteries;

24—105 cm. howitzers, also divided into six batteries;

per regiment.

The Heavy Artillery will be divided into eight H.A. regiments, each of 24 guns; three batteries of 4 pieces (150 mm. guns) each, and three batteries of 4 pieces (150 mm. howitzers) each.

There will also be: one Horse Artillery Regiment of 24 guns; three Mountain Artillery Regiments, each with twelve 70 mm. guns, divided into three batteries; and twelve 105 mm. howitzers, also divided into three batteries. Lastly, there will be a Coast Artillery

establishment for the three defended ports of Cadiz, Cartagena and Ferrol.

No attempt is being made at the moment to supply the Army on any large scale with any very recent war material. The tank units at present existing possess only some thirty tanks, half of these being obsolete Renault tanks, which have seen service in Morocco.

The Flying Corps, however, is to be expanded in due course. At present it possesses some 400 odd aeroplanes of many different types. The scheme now put forward aims at trebling this number and at renewing obsolete material.

There is as yet no prospect of any provision of mechanical transport.

It will be seen that Spain does not exhibit any desire to set up any military organization with a view to intervention by force of arms in European affairs. The present reforms are so long overdue that she is only making up for a long period of neglect. In addition, there is no doubt that the lessons of the recent fighting in Morocco have shown conclusively that Spanish military organization and training demand some radical modernization. Lastly, the Government is determined to reduce redundant personnel and to reduce the military charges of the Budget, whilst obtaining better value for a minimum indispensable expenditure on the army.

## AIR NOTES

### ROYAL AIR FORCE

#### PERSONNEL.

**EXCHANGES WITH DOMINION AIR FORCES.**—Three Royal Air Force officers viz.: one with experience of seaplanes, a technical officer and a stores officer, have recently been exchanged with three officers of the Royal Canadian Air Force of equal rank and similar qualifications for a period of two years.

An exchange of one officer is also about to be made with the Royal Australian Air Force.

These exchanges are made in accordance with schemes of co-operation with Dominion Air Forces with the intention of broadening the outlook of the various Services and to make for similarity of training and organization and mutual understanding. As well as being of direct benefit to the Dominion Air Forces, which obtain the services of highly experienced regular officers, the system is of value to the Royal Air Force and widens their knowledge and experience of aviation conditions in all parts of the world.

**PROMOTIONS.—General Duties Branch.**—Wing Commander A. V. Bettington, C.M.G., was promoted to Group Captain as from the 1st July, 1927.

**Medical Branch.**—Wing Commander A. V. J. Richardson, O.B.E., M.B., D.P.H., and J. McIntyre, M.C., M.B., M.A., were promoted to Group Captain as from the 1st of July, 1927.

**APPOINTMENTS.**—Group Captain J. A. Chamier, C.B., C.M.G., D.S.O., O.B.E., ex-R.A.F. Headquarters, India, was appointed Deputy Director of Technical Development, Air Ministry, on 6th May, 1927.

Group Captain H. M. Cave-Browne-Cave, D.S.O., D.F.C., relinquished his appointment as Deputy Director of Technical Development, Air Ministry, and was appointed to command the Far East Flight, on 17th May, 1927.

**FLYING TRAINING.**—During the period under review the following have completed courses of instruction at Flying Training units:—

Type of Course.	Officers.	Airmen.
C.F.S. .. .. .	11	10
Ab initio .. .. .	47	23
Conversion .. .. .	1	—
Refresher .. .. .	8	1
	67	34

**AB INITIO TRAINING OF OFFICERS OF R.A.F. RESERVE.**—The numbers of officers trained at Messrs. De Havilland Aircraft Company, Limited, and Messrs. Bristol Aeroplane Company, Limited, from 13th August, 1925, to date are:—

Commenced Training	87
Completed .. .. .	51
Suspended .. .. .	17
Still under .. .. .	19

Messrs. William Beardmore & Company are commencing the training of ab initio pupils at Renfrew at an early date.

**TRAINING OF IRAQI PERSONNEL.**—Arrangements have been made for six Iraqi Cadets to enter the Royal Air Force Cadet College, Cranwell, in September next to complete the usual Flight Cadet's course.

### NAVAL CO-OPERATION.

#### FLEET AIR ARM AND COASTAL RECONNAISSANCE UNITS.

**HOME WATERS.**—Fleet Air Arm flights in H.M.S. "Furious" took part in Atlantic Fleet Exercises in May and June. The "Furious" then proceeded on an independent cruise down the West Coast, arriving at Portland on 28th June, 1927.

No. 480 (Coastal Reconnaissance) Flight have carried out their routine training programme, and have also carried out exercises with the Fleet and with submarines.

**MEDITERRANEAN.**—H.M.S. "Eagle" was in dock until 22nd June, 1927, when she embarked her flights and left with the Mediterranean Fleet for a cruise in the Mediterranean.

No. 481 (Coastal Reconnaissance) Flight at Malta have co-operated with the Naval and Military units stationed at Malta and have continued their normal routine of training and exercises.

**CHINA.**—The aircraft embarked in H.M. Ships "Hermes," "Vindictive," "Argus" and "Enterprise" have been employed in connection with the general situation in Chinese waters. H.M.S. "Enterprise" has been detached for refit since the end of April. H.M.S. "Argus" has been at Wusung; "Hermes" at Shanghai from 5th May, 1927 (previously at Hong Kong), and H.M.S. "Vindictive" at Hankow.

(See also NAVY NOTES, p. 655).

### OVERSEAS COMMANDS.

#### EGYPT.

During the period under review training and co-operation work proceeded on normal lines. Two interesting night flights were carried out. A machine from No. 216 (B) Squadron left Amman and arrived at Heliopolis the same night, the distance covered being 318 miles. On another occasion three aircraft from the same squadron flew from Heliopolis to Assuit, where they refuelled and returned the same night, the distance in this case being 204 miles each way.

#### INDIA.

The first air display arranged by the Royal Air Force took place at New Delhi on the 21st February, 1927; ten machines from each squadron took part. Various items, such as bombing attacks, aerobatics, air combats, air drill and parachute demonstrations were included in the programme, and a fly-past of machines representing all the Royal Air Force squadrons in India concluded the display. The display, which was attended by some 20,000 spectators, was carried through strictly to time-table, and without any untoward incident.

During April the Mohmand country on the N.W. Frontier was the scene of a certain amount of unrest, the rival factions being the upper and lower Mohmands. The latter, who are Government supporters, received assistance from the Government of India, in the form of money and ammunition. The tribes, however, came



to an understanding and the trouble blew over without the need for offensive action by Government forces.

During May, Faqir Sahib of Alingar, a tribal leader of local prominence, raised a lashkar from upper Mohmand tribes with the intention of advancing on Shabkadr. Daily aircraft reconnaissances were carried out over the district, but nothing of any importance was observed until 5th June, when a gathering of some 200 strong was sighted near Hafiz Kor. The following day this lashkar attacked our boundary towers and blockade line, but were driven off by the Loyalist Mohmands holding the line. In consequence of this attack, air action was taken against the upper Mohmands and continued until 8th June, when the enemy were dispersed. The situation is now normal.

### IRAQ.

During the period under review the situation generally has remained quiet, the only punitive air operations necessary being those against certain small villages in the Penjvin area.

#### PENJVIN OPERATIONS.

Prior to April of this year the Penjvin district of the Sulaimania Liwa had not been brought under effective Government control. This district was being used continually by Sheikh Mahmoud and his followers as a harbour from which to emerge and attack other villages in Sulaimania, and also as a base from which to operate in his attacks on the Jaf tribes, and the Government forces shepherding them in their annual migrations to and from Persia. In order that law and order should be instituted throughout the Penjvin Nahiya it was decided to occupy Penjvin town and establish police posts at certain mountain passes through which road communications run. With this object in view two columns, to proceed by different routes, one consisting of a squadron of cavalry, an infantry battalion, a section pack battery of the Iraq Army and a detachment of Iraq Police commanded by Major Clayton and the other of two companies and a machine gun section, Iraq Levies, under the command of Lieut.-Colonel Barke, left Sulaimania on the 19th and 20th April respectively.

The combined forces were commanded by Colonel Commandant Browne, at whose disposal No. 30 (Bombing) Squadron was placed. The second column, marching by way of Naudeh, Waliawa and Qizilja entered Penjvin on the 22nd April. Here news was received that rebels were preparing to hold the Kani Manga Pass and resist the passage of No. 1 Column. Accordingly a detachment from No. 2 Column left Penjvin to occupy the ridge. The rebels, taken completely by surprise, retired from their position and suffered casualties in doing so. The first column proceeding via Sarao, Kaolas and Nalparez, encountered opposition on the 22nd and 23rd April, in the neighbourhood of Nalparez by a force of Avroman rebels raised from the surrounding villages; a short action ensued in which No. 30 Squadron co-operated by close reconnaissance patrols. The rebels were dispersed suffering casualties, and the column, the passage over the Kani Manga having been cleared, arrived in Penjvin on the 23rd without further incident.

As a result of this hostility encountered by the Iraq Army column, proclamations were dropped on a number of villages whose inhabitants had assisted in the attack on the column, ordering the headmen to report to Penjvin, failing which air action would be taken against them. The inhabitants, however, failed to comply, and in consequence the villages of Kolitan, Dolassur, Kaniqapla, Mulak, Saniyiwx Zangisar, Khirruk, and Bani Banuk were subjected to air action.

Supply columns, conveying stores and rations for the Penjvin garrison, proceeded from Sulaimania, continuous air reconnaissances being maintained over the columns in case of attack. The column commanded by Lieut.-Colonel Barke returned to Sulaimania on the 28th April without incident. Colonel Commandant Browne, accompanied by one section machine gun company and a company of Iraq Levies, left Penjvin in the occupation of Iraq Army troops and police, and after siting police posts at Qizilja, Waliawa and Naudeh, arrived at Sulaimania on 5th May. Flying has taken place daily over these posts, which have been reported quiet. In Penjvin the situation is quiet, and a number of local inhabitants have returned to the town on learning that the Government intend to set up an ordered administration there.

Sheikh Mahmoud, who, on the occupation of Penjvin by the Government forces, retired over the Persian border to Walajir, has now sent a signed treaty by his son to Penjvin accepting the terms of the High Commissioner recently presented to him.

#### ARMoured CARS.

A re-organization of the Armoured Car units took place on the 1st April. Nos. 4, 5 and 6 Armoured Car Companies were disbanded and were re-formed as an Armoured Car Wing, comprising Headquarters and eight Sections.

During April, No. 1 Section Armoured Car Wing carried out a reconnaissance of the Southern desert along the Iraq-Nejd border. Armoured cars had not previously traversed any of the country West of Rukhaimiyah in the neutral area and the object of the reconnaissance was to investigate the suitability of the country for the operation of armoured cars in case of necessity. The cars visited Rukhaimiyah and after passing through Ansab, Jumaimah, Nuqrat-Salman and Bat-Hah, arrived at Jalibah. An attempt was then made to return to Basra *via* Abu Ghar and Busaiyah. The track through the sand belt, however, proved impassable, and the cars returned to Basra direct.

#### PALESTINE AND TRANSJORDAN.

In the spring of 1926, while the French were operating in the Jebel Druze against the Druze revolt, a large number of Druze refugees, mostly old men and children, and the families of the fighting men who had been killed, crossed the frontier into Transjordan. The Druze chiefs asked the Transjordan authorities for permission to establish a camp at Kasr Azrak to accommodate these refugees. This was granted on the understanding that they would assume responsibility for the good faith of the inhabitants of the camp with the Transjordan authorities. The Druze leaders gave an assurance that neither they nor their followers would come to Azrak and that the camp would not be used as a resort for armed men. A small number of armed men were, however, allowed to remain as a guard for the camp.

During the latter half of 1926, however, it became apparent that the Druze leaders had not fulfilled the conditions under which permission was given to their women and children and non-combatants to occupy Azrak and that the camp was being used by all the main leaders of the Druze revolt either as their permanent habitation or as a safe retreat from the fighting which was still being carried on against the French in the Druze country. The Druze leaders, in view of the assurances they had given were accordingly asked for an explanation, but the excuses made were so unsatisfactory that it was decided to enforce the neutrality of the camp by the despatch of a force to Azrak to eject all armed Druze and to take measures to prevent their return.

A force consisting of three Sections of No. 1 Armoured Car Company, Royal Air Force, and three companies of the Transjordan Frontier Force, under the command of Group Captain L. W. B. Rees, V.C., accordingly occupied Azrak on the 17th April. As soon as the news of the move of this force reached Azrak the leading Druze chiefs with a considerable number of their fighting men departed into the Jebel Druze. On arrival of the column at Azrak, Martial Law was proclaimed; systematic "round-ups" were carried out and several arrests of men who came under the category of those not allowed in the district were made. These cases were dealt with by Court Martial procedure and various sentences inflicted. Passes were issued to all persons authorized to use the camp and any person found in the camp without a pass was arrested. By this means, the camp was cleared of all undesirable persons and by 10th May the need for further military activity, except the small patrols, no longer existed. This result was achieved without any very drastic steps being taken and no trouble of any kind was experienced from the inhabitants of Azrak. Roads have been constructed round the settlement and these will provide a ready means of access whenever necessary.

Two companies of the Transjordan Frontier Force and two Sections of the Armoured Car Company have now been withdrawn, and it is hoped that circumstances will permit of the complete evacuation of the area at an early date.

## BRITISH CIVIL AVIATION

### DEVELOPMENT OF THE LIGHT AEROPLANES.

Light aeroplane flying is developing strongly in every part of the country. Several new clubs are being organized and the number of private owners is multiplying at an encouraging rate. On a recent Saturday (16th July), three meetings were held simultaneously in different parts of the country and were well attended. There was an Air Pageant at Castle Bromwich (Birmingham), an Air Display at Woodford (Manchester), and a Flying Day at Roehampton Club. Nine machines visited Roehampton alone.

Sufficient experience has now been gained to enable a prospective owner-pilot to estimate his expenses with reasonable accuracy and to see the truth of the claim that a light aeroplane can be run at a cost per mile no greater, or even smaller, than that of a car. The "D.H. Gazette," issued by the De Havilland Company, makers of the "Moth" machine, has a most interesting article on "The £.s.d. of Private Flying." It is shown that even after taking into account insurance, petrol and oil, maintenance costs, garage rent, etc., a "Moth" owner can cover 20,000 miles per annum at a cost of only about 3½d. per mile or, if flying is restricted to 12,000 miles, at a cost of slightly over 4d. per mile.

The subsidy to light aeroplane clubs is being renewed on 1st August on a new basis.

At the start the Air Ministry gave equipment and a grant of money to six approved clubs, but in future the number will not be limited to the original six and the sum received will, in effect, be that earned by the club through its efficiency in training pilots, and the subsequent keenness of those men to fly. Thus the approved club will earn £50 for each new pilot trained by the club who qualifies for either Licence "A" (private owner's ticket) or Licence "B" (commercial). Thirty shillings an hour will be paid to a club for every hour's flying by pilots of the club up to a maximum of twenty hours' flying per year by each pilot; and, in addition, a bonus of £10 will be payable for each member who held a pilot's licence current on the previous 31st December.

The total annual subsidy that can be earned under all these heads cannot exceed £2,000 per club and the new scheme will remain in force for three years. At the end of this time, it is intimated, no more subsidy will be paid.

#### THE COLONIAL CONFERENCE.

At the recent Colonial Conference, which was attended by either Governors or Representatives of all the important Colonies, one day was set aside for the discussion of commercial air matters. The main subjects on which discussion was concentrated were :—

- (a) The benefit which would be derived in East African Colonies by the establishment of the Khartoum-Kisumu air service, and possibly some form of central organization in these Colonies which could deal with air survey, transport of local officials, general air reconnaissance, etc. ;
- (b) The desirability of establishing throughout the Colonies a nucleus organization to be staffed with amateur personnel for the collection of meteorological data ;
- (c) The possibility of establishing an air organization in the West Indies ;
- (d) The possible application of air survey to various uses in different Colonies.

The growing importance of aviation in its application to the development of new territories was fully recognized and the next step is to investigate particular cases where the use of aircraft appears to offer good prospects of success. So far as the Khartoum-Kisumu service is concerned this investigation is already in progress. The programme of experimental flights over the route remains to be completed upon the return to service of the "Pelican" seaplane, which struck an obstruction in the Nile, but the practicability of the route from an operational standpoint is beyond doubt. The extension of the route from Khartoum to Cairo has been considered tentatively and is being further studied. The problem is primarily one of finance in each case.

### AVIATION IN FOREIGN COUNTRIES

#### GERMANY.

The following statement, published in Germany, shows the funds voted by the German Government towards Aviation for 1927 :—

<i>Service.</i>	<i>Reich Marks</i>
1. Aerodrome W/T Stations and personnel .. .. .	950,000
2. Exhibitions, competition prizes and preparations for competitions .. .. .	2,000,000
3. Meteorological services .. .. .	1,800,000
4. Scientific development and advance in general efficiency ..	8,700,000
5. Expenses in connection with the Adlershof Experimental Station and its extension .. .. .	2,700,000
6. Air Transport Companies operating regular public services..	19,750,000
7. Appliances increasing safety of flight and for production of maps and plans .. .. .	3,000,000
8. Furthering the glider and light aeroplane movement and for furthering the training of professional flying personnel ..	4,700,000
9. Contribution towards the Aerodynamics Experimental Establishment at Gottingen.. .. .	200,000
10. Contribution towards the maintenance of permanent exhibition of aircraft .. .. .	3,500
<b>Total Reich Marks .. .. .</b>	<b>43,803,500</b>
<b>i.e., approximately</b>	<b>£2,137,000</b>



In addition to the funds voted by the Reichstag, as shown above, considerable sums are contributed towards the development of internal air lines, aerodromes and aviation generally by individual German States and municipalities, and by private subscription.

### ITALY.

**MARCHESE DE PINEDO'S ATLANTIC FLIGHT.**—The Marchese de Pinedo has completed his flight round the Atlantic, details of the first two stages of which were given in the last issue of this JOURNAL. The total distance flown was approximately 25,000 miles.

Accompanied by Captain del Prete and Signor Zacchetti, the Marchese left Elmas (Sardinia) on 13th February, in a Savoia 55 twin-hulled seaplane fitted with two 500 h.p. Isotta Fraschini "Asso" engines, and arrived at New Orleans on 29th March, completing the 16,000 miles in twenty-two flying days.

He left New Orleans on 2nd April and arrived at Roosevelt Dam, 1,600 miles distant, on 6th April. Here an unfortunate accident occurred. During refuelling operations a youth dropped a lighted match on the petrol-covered waters of Lake Roosevelt; de Pinedo's machine became involved in the fire and was totally destroyed. Fortunately the crew escaped unhurt. By the order of Signor Mussolini another machine of the same type was shipped to New York.

De Pinedo's original plan had been to fly to S. Diego, thence *via* San Francisco, Seattle, Chicago, Quebec to New York, and back to Italy *via* the Azores. The destruction of his machine decided him to modify his itinerary and on 8th May he resumed his flight over the following route:—

New York, Boston, Philadelphia, Charleston, Pensacola, New Orleans, Memphis, Chicago, Montreal, Quebec, Shippegan Island, to Trepassy Harbour (Newfoundland), where he arrived on 20th May. Three days later he left Trepassey for the Azores; contrary winds greatly delayed him, and when about 200 miles from Flores he was forced to alight owing to a shortage of petrol.

A Portuguese steamer and later an Italian vessel towed the machine to Horta, arriving on 30th May. The machine suffered little damage and on 10th June, de Pinedo resumed his flight, arriving at Lisbon on 11th June, Barcelona on 13th June and Ostia (near Rome) on 16th June.

**MEDITERRANEAN TOUR BY GENERAL BALBO.**—In May, General Balbo, the Italian Under Secretary of State for Air, made a tour of inspection of Italian aerodromes and seaplane bases in the Eastern Mediterranean and North African Colonies, the route being Rome-Leros-Rhodes-Tobruk-Benghazi-Tripoli-Rome.

From Tobruk, Benghazi and Tripoli he visited various aerodromes, making the journeys by air in Caproni Ca.3 machines. The expedition consisted of a Savoia 55 seaplane, carrying General Balbo and two other officers as passengers, two pilots and two mechanics, and a Dornier Wal seaplane carrying three officers as passengers, two pilots and two mechanics. Each aircraft also carried a W/T operator during the first part of the tour. The tour occupied fourteen days. 4,400 miles were travelled by air, the flying time being forty-eight hours.

**CHANGES IN THE TECHNICAL DEPARTMENTS AT THE AIR MINISTRY.**—The Council of Ministers has approved a Bill introducing modifications in the constitution of the Air Ministry. The principal change concerns the Directorate General of Air Service Engineering, which will in future be divided into two departments, the Directorate General of Construction and Supplies, responsible for contracts, the construction and supply of all equipment and for the technical supervision of



production and work generally; and the Higher Directorate of Research and Experiment, a purely scientific and experimental department responsible for the encouragement of aeronautical research and of all work in connection with the production of aircraft and their accessories.

The Directorate of Construction and Supplies will be responsible for the testing of material in collaboration with the Directorate General of Supply Services and Aerodromes already created. This change should result in a general speeding up of work.

The Air Ministry now consists of the following :—

1. The Minister's Department.
2. Private Secretariat of the Under Secretary of State.
3. Laws and Decrees Office attached to the Minister's Department and under a Civilian Principal.
4. Directorate General of Military Personnel and Schools under a General of Air Brigade or Air Division.
5. Directorate General of Civilian Personnel and General Affairs under a Civilian Director General.
6. Chief Directorate of Research and Experiment.
7. Directorate General of Construction and Supplies under the General-in-Chief or General of Air Service Engineers.
8. Directorate General of Supply Services and Aerodromes under a General of Air Brigade or Air Division.
9. Inspectorate of the Military Commissariat under the General of the Military Commissariat of the Air Service.
10. Medical Department under Medical Officer of senior rank
11. Civil Aviation and Air Traffic Department under a Civilian Director.

### JAPAN.

**AIR DEFENCE TESTS.**—Between midnight of 26th April and dawn of the 27th, air defence manœuvres of the Yokosuka Naval Station were carried out under the supervision of Admiral Baron Abo, Commander-in-Chief of the station.

Ten machines of the Kasumigaura Naval Air Station, which were supposed to be those of an enemy country, attacked the city at midnight. All lights were extinguished and the "Yamashiro" and "Isuzu" in port, fired their guns. The manœuvres were finished in three hours. The object of the manœuvres was to test the light control of the city. It is intended to make similar tests of the light control of Tokyo and Yokohama.

**NEW AERODROMES.**—The sum of about Yen 630,000 having been voted by the Diet for 1927-28, the Department of Communications will prepare aerodromes, landing places and course marks for the Tokyo-Dairen and Osaka-Shanghai routes. New aerodromes will be established in the vicinity of Fukuoka and Osaka. At Tokyo, the military aerodrome at Tachikawa will be used.

A Press report of 4th May states that an extensive aerodrome is to be established by the Navy Department, near Akkeshi in the island of Hokkaido. The area will be about 300 acres, and hangars, tanks and coal depot will be established on the land reclaimed from the lake. The aerodrome will be the largest of its kind in the Far East.

### NAVAL AIR SERVICE.

Until recently the Admiralty administered the Naval Air Service as any other branch of the Navy. The Naval Air Staff formed a branch of the Department of

the Chief of the Naval General Staff and was responsible for Air Operations. In 1926, however, it was decided that a separate department should be established during the next financial year to control all naval aviation matters; so the Naval Aviation Department came into existence.

An Imperial Ordinance of 2nd April, 1927, published Regulations for the Naval Aviation Department, and in future the Department will undertake the following:—

- (1) The designing, examination, construction and repairs of aircraft and designing and examination of accommodation for carrying aircraft on board ship;
- (2) The designing and examination of naval aircraft works;
- (3) Aviation training;
- (4) The training and duties of officers and men of the ordnance branch who are employed in connection with aircraft;
- (5) All other affairs in connection with aviation.

These new Regulations came into force on 5th April last.

#### NETHERLANDS.

**RE-ORGANIZATION OF THE DUTCH AIR FORCES.**—At present the Dutch Air Forces comprise the Army Air Force, for service in the Netherlands only; the Colonial Air Force, for service in the Dutch East Indies only; and the Naval Air Force, for service with the Navy, both in the Netherlands and in the East Indies. During the debate on the 1926-27 Naval Estimates the Minister of Marine, giving his reasons, proposed to do away with the use of seaplanes by the Naval Air Force in the Netherlands. As a result of this proposal the Dutch Government appointed a Committee in October, 1926, to consider the possibility of amalgamating the Naval and Army Air Forces in the Netherlands.

This Committee issued its report in April, 1927. The recommendations made are (a) the expansion of the Army Air Force; (b) the abolition of the Naval Air Force in the Netherlands; (c) the maintenance of an independent Naval Air Force by the Dutch East Indies, assistance to be given by the Netherlands Government for this purpose.

The expansion of the Army Air Force would involve the retention of the naval aerodrome at De Kooy in addition to the military aerodrome at Soesterberg; an increase by twelve of the number of pilots to be trained each year; an increase in the number of flying hours by 2,500 per annum; an increase in the cost of the Army Air Force by Fls. 338,000 (£27,910) a year. The total cost per year of the new Army Air Force, it is estimated, would be Fls. 1,850,000 (£152,766) as compared with the present cost of approximately Fls. 2,855,000 (£235,755) for the two separate Army and Naval Air Forces.

The Committee's report has been tabled for the inspection of the members of the Dutch Chamber.

#### UNITED STATES.

##### COMBINED ARMY MANŒUVRES, MAY, 1927.

**ARMY AIR CORPS ASPECT.**—The United States combined Army Manœuvres for 1927 took place in the vicinity of San Antonio, Texas, from 11th-21st May. Practice flying operations from 12th to 14th May, and the manœuvres proper from 15th to 19th May.

The object of these manœuvres was to test air co-operation and Air Staff work; the total number of aircraft engaged being 110.

DEMONSTRATIONS EN ROUTE.—In order to give demonstrations *en route* the Air Corps units participating were divided into three separate contingents; Contingent "A" proceeded to San Antonio, *via* Fort Benning, Georgia; Contingent "B" *via* Fort Riley, Kansas, Fort Leavenworth, Kansas and Fort Sill, Oklahoma; and Contingent "C" proceeded direct to San Antonio.

Contingent "A" remained at Fort Benning on 3rd to 4th May, when the following demonstrations were included: Attacks by attack aeroplanes on targets representing battalions of field artillery and infantry, both on the march; aerial manœuvres by pursuit and bombardment aeroplanes, live bombs, machine guns and smoke screen apparatus being used.

The demonstration by Contingent "B" at Fort Riley included pursuit manœuvres, the bombardment of a bridge, and an attack with bombs and machine guns on a target representing a troop of cavalry. No demonstrations were carried out at Fort Leavenworth, owing to the flooded condition of the flying field. At Fort Sill demonstrations were given of the bombardment of ammunition dumps; smoke bomb and smoke screen exercises were also included.

CONCENTRATION AT SAN ANTONIO.—The concentration of aircraft at San Antonio was completed on 12th May, by the arrival of eighteen pursuit aircraft which had made a one-day flight in formation from Selfridge Field, Michigan, to San Antonio, a distance of 1,320 miles. The number of aeroplane miles covered by all aircraft up to this time was over 250,000 miles.

The movements of Contingents "B" and "C" were impeded by unfavourable weather conditions, while those of "A" were affected by flooded aerodromes.

AIRCRAFT EXERCISES DURING THE MANŒUVRES.—The following work was included among that carried out by the various tactical groups:—

(a) *Pursuit Group.*

- (i) Patrol work to seek and engage hostile pursuit aircraft;
- (ii) The supporting of bombardment and air attack operations;
- (iii) The intercepting of enemy bombers.

(b) *Bombardment Group.*

- (i) Daylight raids;
- (ii) A night attack by aircraft against bridges;
- (iii) Attacks against lines of communication and aerodromes.

(c) *Attack Group.*

- (i) Attacks against enemy march columns;
- (ii) Attacks against a regiment of howitzers, a reserve division, and a brigade moving into position for a counter attack;

(d) *Army Observation Group.*

Two observation squadrons accomplished fifty-seven missions, including reconnaissance, photographic and night missions.

EFFICIENCY.—It is reported that the reliability of both machines and engines was very noticeable, accentuated by the result of the concentration, and the punctuality by which scheduled missions left the ground.

As regards the concentration, this exercise without doubt demonstrated the military value of airways in the United States. If it had not been for the development of commercial flying facilities it is very doubtful if the concentration could have been efficiently completed. The availability of these facilities enabled the Air Corps to alter their original schedules to meet unforeseen conditions arising as a result of the floods in the Mississippi Valley, and of unusual rains and storms in the Middle West, and yet to arrive at San Antonio with only two planes less than scheduled.

## TRANS-ATLANTIC FLIGHTS.

During the past three months preparations for four attempts to fly the Atlantic, non-stop, have been made by American airmen, three of which have been successful, although only in one case was the destination reached without previously landing.

Lieutenant-Commander N. Davis and Lieutenant S. H. Wooster were killed on 27th April, when their aeroplane "The American Legion," made by the Keystone Aircraft Company, and equipped with three Wright engines, crashed during its last test flight before crossing the Atlantic.

Colonel C. A. Lindbergh successfully accomplished a non-stop flight between New York and Paris on 20th-21st May. The aeroplane used was a Ryan monoplane equipped with a 225 h.p. Whirlwind engine. He covered a distance of 3,610 miles in 33½ hours. This flight is of particular interest when it is remembered that the same machine had previously been used by him in his flight across the United States, from San Diego-St. Louis, and thence to New York, a distance of 2,420 miles, the flying time for which was 21 hours 20 minutes.

On 4th-6th June, Mr. C. Chamberlain, with Mr. C. Levine as passenger, also successfully crossed the Atlantic non-stop. Although not an entrant for the Orteig Prize, for which Messrs. Davis and Lindbergh were competing, Mr. Chamberlain intended to fly direct to Berlin. Owing to shortage of petrol, he was forced to descend at Eisleben, a distance of approximately 3,900 miles from New York, which was accomplished in 42½ hours. The aeroplane used was a Wright-Bellanca monoplane, also equipped with a Wright-Whirlwind engine.

Commander R. E. Byrd, accompanied by Lieutenant G. O. Neville, engineer; Mr. B. Acosta, pilot; and Mr. B. Balchen, relief man; left New York on 29th June on a Fokker monoplane installed with three Wright-Whirlwind engines, in an attempt to fly to Paris non-stop. Fog was encountered during nineteen hours of the flight, and great assistance was rendered by the efficient functioning of the wireless set carried. The coast of France was reached at about 8.30 p.m. on 30th June, but owing to the incorrect readings given by the earth induction compass (a type similar to that used by Colonel Lindbergh) the fliers spent 6½ hours in unsuccessfully trying to locate Paris. After nearly 42 hours flying, Commander Byrd landed in the sea 200 yards from shore at Ver-sur-Mer, France, owing to petrol shortage.

## U.S.A.—HAWAII. NON-STOP FLIGHT.

A non-stop flight from Oakland, California, to Honolulu, Hawaii, was successfully accomplished by Lieutenants Maitland and Hegenberg, U.S. Army Air Corps, for the first time on 28th June. A distance of 2,390 miles was flown in 25 hours, 43 minutes. The aeroplane used is reported to be a Fokker monoplane with three Wright-Whirlwind engines, a similar machine to that used by Commander Byrd. It will be noticed that the same type of engine has been used in each of the flights reported.

A previous, but unsuccessful, attempt to accomplish the above flight was made by U.S. Naval aircraft in September, 1925.

## YUGOSLAVIA.

FLIGHT TO INDIA AND BACK.—Two Yugo-Slav airmen, Captain Sondermayer and Lieutenant Bardac, recently made a successful flight to India and back. The route taken was as follows:—Paris—Novi-Sad—Aleppo—Beyrouth—Baghdad—Basra—Djask—Karachi to Deolali. The return journey was made by the same route but terminated at Belgrade.

The total distance flown was approximately 9,300 miles in 89 flying hours. The aircraft used was a Potez 25, equipped with a 450 h.p. Lorraine-Dietrich engine.

## AIRSHIP NOTES

### GREAT BRITAIN.

**PROGRESS OF AIRSHIP CONSTRUCTION.**—Progress with the airship programme has been maintained and constructional work is proceeding normally. It is hoped that both "R.100" and "R.101" will be flying in 1928.

**DOMINION AIRSHIP STATIONS.**—The Canadian and South African Governments have each decided to erect a mooring tower in their respective territories, and representatives of the Airship, Meteorological and Works Staffs have visited South Africa and Canada to advise on the selection of suitable sites for the purpose.

**STANDARDIZATION OF MOORING TOWERS.**—A question of interest which has arisen since the last issue of the JOURNAL is that of the international standardization of mooring towers. This question has already been the subject of informal discussion with the United States authorities on the occasion of the visit by Air Ministry officials to America, referred to in the preceding paragraph, and the department has also been approached by the Zeppelin Airship Construction Company with a view to an exchange of ideas on the matter.

As it is clearly of great importance for the future development of the airship as a vehicle of international transport that a sufficient degree of uniformity should be provided in any mooring towers now to be erected to ensure that they may be capable of use by all airships of a certain size wherever constructed, the movement towards international co-operation is to be welcomed.

### JAPAN.

The Naval Airship "N.3," which was purchased from Italy and has been assembled at Kasumigaura under the supervision of General Nobile, has carried out her trials and the results are said to be very satisfactory. The airship paid a visit to Tokyo on 28th April last.

### SPAIN.

**NAVAL AIRSHIP.**—A shed, capable of holding one semi-rigid airship, forms part of the Naval Air Station at Prat de Llobregat, but the airship has lately been housed on board the carrier "Dédalo." This vessel also carries six Southampton Seagulls (folding type) and two Avro 504K's with floats. In fine weather six Macchi (Italian) boats can be accommodated as deck cargo.

**AIRSHIP PROJECT.**—The Colon Transaerial Company has a project for starting an airship service between Seville and Buenos Aires at the end of 1928. It is reported that a promise of a Government subsidy of about a million sterling has been obtained, the amount to be spread over a period of seven years. It is possible that the firm may acquire the airship L.Z.127, now under construction at Friederickshaven. This airship will, it is stated, have a speed of 62 knots and a radius of action of 5,400 miles, which is just the distance from Seville to Buenos Aires; she would thus have to refuel *en route*.



## UNITED STATES.

**DESIGNS FOR NEW AIRSHIPS.**—It was announced in the American press that the Secretary of the Navy had appointed a board to examine the designs for a new rigid airship, of approximately 6,500,000 cubic feet capacity; these were to be submitted on a competitive basis. The board was composed of the following officers:—Rear-Admiral W. A. Moffett, Chief of the Bureau of Aeronautics; Commander S. M. Kraus, Material Division, Bureau of Aeronautics; Lieut.-Commanders R. C. Pennover, Bureau of Aeronautics, C. H. Havill, Bureau of Aeronautics; Lieutenant Roland Mayer, Construction Corps, Lakehurst, N.J.

A later report states that the Board has recommended the award of the prize for the best design to the Goodyear Tyre and Rubber Company, of Akron, Ohio. The design is for an airship of 6,500,000 cubic feet, 780 feet long, and 135 feet diameter, with a maximum speed of 80 miles per hour. It will be capable of carrying five aeroplanes and the cruising range will be 11,000 nautical miles at 50 knots, or 6,000 miles at full speed.

## THE AIRSHIP SITUATION.

An interesting article entitled "Reflections on the Airship Situation," by Lieut.-Commander C. E. Rosendahl, United States Navy, appears in the "Journal of the United States Naval Institute" for July, 1927. The following is a summary of some of the more important points.

- (1) Two six-million cubic feet naval rigid airships have been approved by Congress.
- (2) Germany is building an airship of one million cubic feet greater volume than the "Los Angeles," to be known as L.Z.127. When completed the airship will be operated by Spain under Government subsidy between Seville and the Argentine.
- (3) German effort was mainly responsible for the present status of rigid airships, but her naval airship service was hampered at the beginning of the war through the commanders being insufficiently indoctrinated in naval warfare. Newly trained commanders were obliged to devote time to technicalities of airship handling and so neglected military demands. They lacked "military schooling," "bravery and daring alone cannot offset the lack of fundamentals in military training."
- (4) There is a tendency to over-rate the vulnerability of airships to enemy attack. In practice there must be a limit to the number and types of aeroplanes that an enemy will be able to have at sea; the airship is far from helpless with her larger calibre guns, steadier platform, excellent manoeuvrability and climbing ability.

The loss of large airships while carrying out purely naval missions has been negligible.

- (5) Weather imposes limitations on airships, but so it does on all weapons. Airship design will improve, while there is no reason to anticipate that the fury of nature will increase.
- (6) It is the opinion of those who have engaged in their operation that rigid airships do possess a potential value to the navy, primarily

for scouting and reconnaissance purposes, that cannot, under most circumstances, be equalled by surface craft or other types of aircraft.

- (7) The greatest single enemy of airships in the World War was the high inflammability of hydrogen. The United States is fortunate in possessing a bounteous, in fact an almost unlimited, supply of the non-inflammable helium: mostly in the ground, however. The sole source of helium in the United States at present is the plant operating at Fort Worth, Texas, the full capacity of which is three million cubic feet per month, divided equally between the Army and Navy. The actual output has been only about one-third to one-sixth of the capacity.

The Japanese Press states that the discovery of helium of excellent quality and capable of quantity production has rewarded the searches of their naval authorities. Reports of deposits of moderate helium content have also been received from Canada.

- (8) The development of rigid airships has suffered from (a) lack of numbers; (b) lack of airship bases; (c) undeveloped handling methods and auxiliaries; (d) insufficiency of the scope of the original helium project; (e) relative importance of missions; (f) lack of proper weather information service.

The article also contains much interesting information of a technical character, and, read in conjunction with "Evolution of Airships and their Present Position," by Group-Captain Fellowes, in our May JOURNAL, will be found of considerable value to those interested in the subject.

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## REVIEWS OF BOOKS

### **History of the Great War : The Campaign in Mesopotamia, 1914-1918.**

Vol. IV. Based on Official Documents by Brig.-General F. J. Moberly, C.B., C.S.I., D.S.O. (H.M. Stationery Office). 15s. od.

With the publication of this volume, Brigadier-General Moberly brings to a close an admirably lucid account of a campaign which will for all time provide the student of military history with food for profound thought. It is for the historian to marshal facts, to set out pros and cons, to state a case impartially, i.e., to sum up rather than to pronounce sentence, and this General Moberly most certainly has done. He has been content to leave judgment to others. What that judgment should be, having due regard to the results achieved in relation to the efforts of the Allies and of the British Empire in the Great War and to the expenditure of manpower and resources in achieving them, it is a little difficult to say. The expenditure was enormous—so enormous that it formed a serious menace to the concentration of effort at the decisive point, the Western Front; the result, as far as concerned Mesopotamia itself, was decisive; but Mesopotamia, even as a theatre of operations against Turkey, was of small importance once our original objects there—the consolidation of our position at the head of the Persian Gulf and the security of the Anglo-Persian oilfields—had been achieved.

In this volume, we see how, in the summer of 1917, a British Army (with a ration strength of over 400,000 men) lay in the desert, five or six hundred miles from the seaport upon which it was based, with no strategical enterprise open to it—except to stand upon the defensive and to hold off the counter-offensive which the enemy was known to be preparing for the re-capture of Baghdad. General Maude, his army reinforced with machine-gun companies, with the promise of an additional cavalry brigade, and with a vast organization of administrative personnel and material behind him, regarded the possibilities of this counter-offensive with equanimity, although it had already become obvious that the assistance of Russia (from which so much had been thought to be forthcoming) was practically negligible. Actually, the counter-offensive came to nothing. General Allenby's advance in Palestine in October turned the enemy's efforts to a theatre of war which was of more vital military interest to him than was an aspiration to acquire prestige (that shibboleth of the Middle Eastern campaigns) by the re-capture of Baghdad. Not realizing this fact at the time, we successfully undertook limited offensives on the Tigris and Euphrates in the late autumn of 1917, with the object of depriving the enemy of positions on his lines of advance which might serve him as advanced bases.

On the 19th November, when he died, General Maude left behind him an all-triumphant army confidently regarding the broken and scattered remnants of the enemy which it had forced back almost out of its reach. General Moberly pays just tribute to the inspiring personality of General Maude, a personality reinforced by knowledge, by sympathy and unceasing energy, and one which had a very real influence upon his subordinate commanders and upon the troops themselves.

General Marshall, General Maude's successor, found himself compelled to adopt a strategic rôle which—by force of circumstances as much as by the instructions of his Government—was purely defensive. Already the demands made upon shipping for the maintenance of his force were almost intolerably heavy, and strict economy in this respect was enjoined on him by the C.I.G.S.; an armistice between Turkey and Russia was about to be signed. It appeared, therefore, as if he could do no more. Actually, the collapse of the Russians in Persia and in the Caucasus served to bring about what is perhaps the most imaginative conception of the whole war—the conception of “Dunsterforce.” With the object of reforming the remnants of our Russian Allies who remained true to us, and thus of stabilizing in some measure the situation in the Caucasus, Persia and Trans-Caspia, a mission under General Dunsterville was despatched from Baghdad to Tabriz. Failing to get further than Enzeli, on the southern shore of the Caspian, this mission restricted its activities to “frustrating enemy penetration in North-west Persia” (as General Dunsterville himself has told us) and settled itself at Hamadun where, presently, a small British garrison arrived. From that point, the enterprise developed with all the inconsequence of musical-comedy—only the results were anything but comic. Eventually a small army found its way across the Caspian to Baku, while behind it, climbing mountain passes, 5,000-8,000 feet in height, convoys of Ford lorries toiled over the six hundred miles of broken roads which lay between Baghdad and Enzeli.

General Moberly deals with this phase of the campaign in lucid, concise phrases, and with matter-of-fact brevity; even so, the pages almost seem to contain the scenario for a “romantic drama” rather than the description of events which actually took place as the result of a considered policy.

In September, when Baku fell to the Turks and “Dunsterforce” was withdrawn to North-west Persia and there was re-organized as “Nor-per-force,” the war was—for Turkey—coming to a close. We see, in Chapter XLIV how, early in October, the Government, wishing to exploit General Allenby's success in Palestine and to gain “as much ground as possible up the Tigris” (in view of the probable cessation of hostilities), ask General Marshall what action he can take in these respects. We find General Marshall replying that although practically the whole of his transport is employed in maintaining the troops in Persia he can, and will—by an improvisation—advance up the Tigris with a corps of infantry and two brigades of cavalry. Thus, the last phase of the campaign is initiated, and initiated on the very same principle which in policy, strategy and administration had governed the first phase—improvisation. This time, too, it resulted in complete success—nor was there an afterwards! General Marshall defeated the enemy in front of him and gained “as much ground as possible . . .” but at the cost of nearly two thousand casualties.

At the end of the chapters dealing with the final advance and engagements on the Tigris one is left wondering—as at the end of the history as a whole one is left wondering—“was it worth it?” Turkey was broken; she was already suing for peace; in Palestine, General Allenby was having everything his own way, therefore an offensive on the Tigris could, at best, afford him little help. Was “ground” a sound strategical objective, or one worth two thousand casualties?

To the general reader, as well as to the military one, General Moberly presents in his volumes a campaign full of absorbing interest, and presents it in a form which can be read not only easily but also with real enjoyment. He deserves our hearty congratulations on the skill and discrimination which he has shown in carrying out a monumental task. His books will remain a monument.

**The Remaking of Modern Armies.** By Captain B. H. Liddell Hart. (John Murray, London). 10s. 6d. net.

This volume is substantially a reprint of a series of articles that have appeared in the daily Press. Consequently it is not surprising that the book, as such, should suffer from a certain lack of coherence, while many of the opinions put forward are in the nature of assumptions, which, while satisfying a popular audience, may be regarded with a certain degree of hesitation, if not of incredulity, by technical readers.

Nevertheless, the whole tenour of the book stimulates thought and will draw attention to urgent military problems of the moment. The statement made by the Secretary of State for War, when presenting this year's estimates to Parliament, and also various utterances in the Press during the last year or two, have prepared both the Army and the public for changes. These have become inevitable on account of the rapid strides which the evolution of war has made in this decade. The facts on which these changes are based are dealt with by Captain Hart.

The first and greatest of these is the power of the modern machine gun. The effect of this on the traditional infantry arm is dealt with in the first chapter. The author is not one of those who see the total abolition of infantry. A place for it will always be found by true generalship in a sphere which is favourable to its employment and where its inherent characteristics may be exploited. This is logically followed by chapters advocating a modernised drill of infantry. There is no doubt that we still suffer under the domination of Frederick the Great and his XVIIIth century reforms. When introduced these had been founded on the basis of fire power obtainable with weapons of the period. Their very success hypnotized Europe for many generations until the substance was lost for the shadow. The author rightly points out the necessity for drill, but pleads that drill may be that required in a modern battle and not that of many years ago.

Since we are concerned with the re-making of armies, the author supplies us with a substitute for infantry in terrain unsuitable to the latter. From his deductions he discusses the proper place of the armoured fighting vehicle in armies.

In prophesying the re-birth of cavalry, the author, in our opinion, sees only half the picture. It is true that cavalry at its zenith had much in common with the tank, but the latter bids fair to surpass the most that cavalry ever achieved. Mobility tanks possess in common with cavalry, yet the latter was never able to carry real protective armour while retaining its mobility. The advantages of shock action they both have in common, but cavalry was never able to combine this with effective fire power. The author strikes a true note, however, when he says that armoured fighting vehicles must be imbued with the real cavalry spirit.

Our peculiar suitability for the impending changes is pointed out. Our long-service Army and big iron and steel industry make this type of war very much our own. The author might perhaps have added to this our national ability for straight shooting, exemplified on many fields from Crecy to Mons, which stands us even in greater stead as the importance of fire increases. With so much truth, one hesitates to criticise certain parts of the book. Readers will, however, quarrel with some of the author's conclusions. His dismissal of the Napoleonic theory may prove premature and is perhaps a little hard on Napoleon! The latter made war in the days when the regular forces were a nation's only protection. The day of national armies was only just dawning. The changes foreshadowed by the author may well bring us back into that era. The chapters on leadership are also a little difficult to follow and, may one say it, more destructive than constructive.



Youth is not always the best asset for, at any rate, a British general. Cromwell, Marlborough and Wellington were none of them young men when at their zenith. The weakest chapter is perhaps that on the unfortunate post-war effort to cost-account the fighting unit, as apart from the military store or factory. So many factors, unknown in business, enter in, that cost-accounting of troops loses all value, as is well known to all regimental officers. The proposal to make the commanding officer finance his unit in all respects is very retrograde as it turns him into an administrator instead of a trainer. This system lingered in India till the late war, but has now happily disappeared. Other small economies suggested show a lack of knowledge of the law as applied to soldiers. These and other small inaccuracies, however, do not unduly detract from the merit of a book which should prove of interest to all soldiers, even where they disagree with the author.

**Tank Handbook : Supplementary Chapters. (Taschenbuch der Tanks Ergänzungsband, 1927). (J. F. Lehmann). 8 marks.**

A year ago a very excellent book on tanks was issued by Captain Heigl, who is an instructor at a technical school in Vienna. Supplementary chapters to this book have just been issued, and Captain Heigl points out that so much progress and change in tank design and production have been made that a handbook of even a year old is out of date in some respects.

These supplementary chapters consist of some 180 pages and contain 65 illustrations. This new production confirms Captain Heigl as a definite authority on the tank situation throughout the world and as an understanding and very careful writer.

The opening chapter contains illustrations and descriptions of a plan for a tank submitted to the Austrian War Office in 1912, by Lieutenant G. Burstyn; this projected machine was amazingly up-to-date and, as far as plans go, far in advance of anything produced in the war. It was a track machine with an alternative wheel drive, for a crew of three or four, and with a small gun mounted in a revolving turret; in addition, it was to be furnished with arms and rollers to assist it in obstacle crossing. The author states that the "Technical Military Committee" applied a "destructive judgment" to it and no action was taken. Captain Heigl adds "How different the situation would have been had Captain Burstyn been an English officer, in which case his project would have been taken up at once and would have been experimented with and improved, to the benefit of the whole army." The author quotes, as an example, the case of Major Martel's one-man tank.

The author considers that the tank construction is now settling down into three main classes of vehicle:—

- (a) Accompanying tanks, i.e., practically mechanized infantry;
- (b) The destroyer tank (for example, the British light tanks, Marks I & II);
- (c) The independent tank (for example, the French 2.C and the British "Hush-hush" tank, of which latter the author publishes various illustrations taken from the Press at the time of the demonstration for Dominion Premiers in November, 1926).

A great change in the employment of tanks will, the author thinks, take place with the introduction of the wheel plus track machine; tanks in the past having had tactical, but not strategical, mobility. The perfection of machines, which employ wheels for long distance moves by road, and tracks for cross-country work, will add very greatly to the capabilities of mechanical fighting vehicles and render their employment possible in hitherto impossible conditions.

The book contains illustrations of the new Czecho-Slovakian light tank, which is a wheel plus track machine, and is now definitely part of the Czecho-Slovakian Army. The author considers it to be at the present moment the most advanced tank in existence.

It is flattering to note that Captain Heigl considers that our Royal Tank Corps is a corps of élite and more advanced and more efficient than any other tank corps.

**Air Facts and Problems.** By Brig.-General Lord Thomson, C.B.E., D.S.O. (John Murray, London). 6s.

A book by a late Secretary of State for Air is not likely to belittle the influence of air power on the value of aviation. Lord Thomson's "Air Facts and Problems," therefore, makes interesting reading in comparison with Neon's "The Great Delusion," reviewed in the May JOURNAL.

It is full of useful particulars of aerial events and the capabilities and achievements of aircraft. It covers such human aspects of aviation as the training and temperament of pilots, the comfort and convenience of civilian passengers and international questions involved in the use of aircraft for war. The success attending the employment of air forces to police a semi-civilized country like Iraq is duly eulogized and the vital need for making adequate provision for the air defence of the heart of the Empire is emphasised as also is the importance of developing Imperial air routes.

A chapter on airships is written in a temperate and not unjustifiably prophetic tone and contains a useful synopsis of the fate of Germany's airship fleet in the late war.

The author's treatment of the psychology of air warfare seems to be somewhat coloured by his political inclinations and will not ring altogether true in the ears of the student of war. The idea that once civilized nations realize the potential horrors of this new weapon they may "discover sufficient common sense, or enlightened self interest, to prevent . . . settling international disputes by such barbarous methods," may appeal to the idealist, but it ignores the teaching of history and elemental defects of human nature.

Less than justice is done to the air needs of the Navy and Army, nor does experience support the author in his contention that flying is a "whole-time job" and that the good war pilot must be an expert engineer. Already seventy per cent. of naval flying is done by pilots who are and remain primarily naval officers. The Army lags in officering its own air arm, but the whole tendency would seem to be for the older Services to take over their own air responsibilities and leave the Royal Air Force free to concentrate on its special and very great task.

"Air Facts and Problems" is written with a skilful pen and would appear to aim at further imbuing the general public with "air sense." Some day we may hope to see an absolutely unbiassed writer, of no less literary ability or professional knowledge than Lord Thomson, produce a work which strikes the balance fairly between the old and the new, between undue optimism and chronic pessimism—there is room in all Service libraries for such a book.

**La Victoire Franco-Espagnole Dans Le Rif.** By Lieut.-Colonel Laure. (Librairie Plon, Paris). Frs. 15.

Written by an officer who was on the staff of Marshal Pétain in 1917-18, and went with him to Morocco in August, 1925, this record of events with numerous quotations from documents may be regarded as a plain semi-official account of

the Marshal's work in securing the victory of the Franco-Spanish arms in northern Morocco. The actual military operations are not described in detail, but the plan of campaign, the success of which depended upon close co-operation between the two nations, is clearly set forth. The solitary map provided is too crowded to be of easy reference.

Marshal Pétain appears to have had the unbounded confidence of M. Panlevé and of his successor, M. Briand. They all took the long view—that Abd el Krim could only be treated as a rebel and that it was necessary to break him utterly—when there were many temptations to come to some sort of a peace in the winter of 1925-26. The Marshal, however, always facilitated peace negotiations, but, in close accord with General Primo de Rivera, went on preparing for the Franco-Spanish spring offensive. It is worthy of note that he left Morocco before the end of 1925 and was able to leave a subordinate to conduct the French part of the operations in the following year. Admirably planned, these French and Spanish converging movements brought the campaign to a successful conclusion in a few weeks, Abd el Krim being forced to unconditional surrender. The Marshal pinned his faith to a properly mounted offensive with machine guns, tanks and bombing aeroplanes, and he was statesman enough to turn to political account during the winter the successes won in the autumn of 1925. As a result many of the tribes returned to their old allegiance before the opening of the spring campaign.

But it is made plain that Marshal Pétain was much more than a commander-in-chief in the field. His task was not so simple as merely to compass the defeat of the tribesmen in arms against the Sultan; he had to take such action as would ensure a tranquillized northern Morocco and allow France and Spain to proceed with the peaceful development of the country, each in the zone made hers by the international treaties of the past. Thus he was able to meet the Spanish dictator on almost equal terms, and could arrange, for instance, the participation of a French squadron in the "combined operation" of the Spaniards at Alhucemas Bay.

Colonel Laure interpolates no comments of his own, holding that the lessons to be learnt from the conduct of the campaign are revealed of themselves in the course of the narrative. But in his concluding pages he points out that the work of France and Spain is by no means finished. Morocco is only in course of pacification, and a firm and enlightened civil administration can only be built upon the prestige afforded by the existence of military forces located in accordance with a sound tactical scheme, and furnished with up-to-date armaments.

**Æsculapian Armature.** By Major M. B. H. Ritchie, D.S.O., Royal Army Medical Corps. (Bale, Sons & Danielsson, London). 1927. 5s. net.

Major Ritchie has the pen of a ready writer. In the twelve articles of which this volume with the somewhat awkward title is composed, he expresses his views and thoughts on the past, present and future position and training of the medical services in relation to military operations in terse and incisive language. The articles have already appeared serially in the "Journal of the Royal Army Medical Corps" and were written during the author's tour of service, i.e., Turkey and Malta in the period 1923-1925. This experience of medical and military organization and administration since the war coupled with a long and varied experience during the war, both in the field and at G.H.Q., makes his criticism of the present position of the Army Medical Service and his visions of its relation to military operations in the future of considerable value. His most suggestive articles are the first

two in the volume, under the titles, "Mars et Hygea" and "Sententiæ Vagæ." In the former Major Ritchie's thoughts wander over a wide field of subjects such as medical administration, evolution of warfare, fashions in fighting, types of ambulance transport, the Geneva Convention, and so on, in addition to his main theme on the importance of sanitation in the maintenance of military efficiency. "Sententiæ Vagæ" would have been a more appropriate title for it than for the second article, which is mainly a recapitulation of the organization of the medical service and its units before, during and after the war and the modifications induced in them by the lessons of the war. The general trend of the author's contentions in these and in the subsequent articles is to the effect that the medical officer of the future will take a greater part in the duties and responsibilities of the administrative staff than he does at present. "Hygiene," he says, "may become 'Q'."

On this account he urges that the portals of the Staff College should be thrown open to officers of the R.A.M.C. In an article on the "pros" and "cons" of chemical warfare he deprecates the idea that the use of poisonous gases will be the determining factor in war, but he does not undervalue the importance of providing against this new weapon. "Chemical warfare," he remarks, "is a perpetual nightmare to the high command. It is a perpetual nightmare to the medical service also."

Apart from the articles that are of purely domestic interest to the R.A.M.C., the volume contains a picturesque presentation of some of the problems that must be exercising the minds of staff and administrative officers and that must be faced in the conduct of military operations in the future. In this respect it is well worthy of perusal by officers of all branches of the Army. Whether they will agree with the author's views or not is another matter. They will certainly find in them much food for thought.

**The Diary of Henry Teonge, 1675-1679.** Edited by G. E. Manwaring.

(G. Routledge & Sons). 12s. 6d.

In this book we have, vividly brought before us to the life, the daily doings and ways afloat of officers and men of the Royal Navy of the Restoration period, in the second half of the 17th century, set down by one who served in three ships successively for upwards of four years, and wrote down, day by day, what he saw and heard. The Rev. Henry Teonge, Chaplain, R.N., made himself practically another Pepys for the Service afloat—Pepys at sea, so to speak—jotting down, as he did, often in quaint and amusing language, everything that passed under his eyes during two cruises in the Mediterranean between 1675 and 1679. For students of naval history, and indeed for all interested in the Old Navy, the book is invaluable. For the general reader who likes looking behind the scenes, the garrulous, jovial old sky pilot should provide ample entertainment. Mr. Manwaring has done his work excellently, displaying a critical and well informed knowledge of his subject, as the introductory chapter and appended explanatory notes testify. A happy chance put the original MS. in his way. Just a hundred years ago a very incomplete and deficient version of the "Teonge Diary" was published, and was all that was in existence until the appearance of the present volume. The whereabouts of the original MS. was long unknown, and it came to be openly said that the so-called "Diary" was a "fake," which was attributed to the notorious literary forger, W. H. Ireland. The book, latterly, was scarce and looked on as a curiosity, and it was expensive to buy. Then, just nine years ago, the MS. turned up at a public auction in London,



and its authenticity was proved beyond cavil. It finally came into Mr. Manwaring's hands to edit, with the result we see now; the production of the full and complete text in an attractive and not too expensive form. The writer, Henry Teonge, was a Warwickshire vicar, with a wife and large family and dwindling means. Pestered by his creditors, a sudden whim seized him; he took horse, rode to London and within a week the penniless cleric appears as a Chaplain, R.N., on board a frigate under orders to go off chasing Algerian pirates in the Mediterranean. The Diary starts with his journey to London and ends with his return, with money in his pockets, to his family at Spurnall. With "Came safe home again to Spurnall, *Deo gratias*," the adventure ends.

**Stonyhurst War Record: A Memorial of the part taken by Stonyhurst Men in the Great War.** By the Rev. Francis Irwin, S.J., late C.F. Issued by the Authorities of Stonyhurst College, 1927.

A complete collection of brief memoirs, illustrated with portraits of the 167 Stonyhurst boys who fell in the Great War. In addition there is a complete memorial list, supplemented with full war record of all Old Boys who held commissioned rank between 1914-1918.

**Wolfiana: Facts, etc., relating to the Life of James Wolfe.** By J. C. Webster. 1927. Privately printed. (In Canada). 47 pages.

An interesting collection of facts concerning the Life of General Wolfe, chiefly relating to personal details, letters and portraits.

This is an invaluable little summary of facts, which a student or admirer of Wolfe's career should not fail to read.

**Les Opérations en Macédoine. L'épopée de Doiran, 1915-1918.** Par le Lieutenant-Colonel Nédeff, d'Etat-Major Général de l'armée Bulgare. Traduit par le Commandant Goetzmann. (Sofia. Imprimerie Armeyski Voeno-Isdatelski Fond). 8 fr. suisses.

This semi-official narrative based on the "documents found in the dossiers of operations of the formations and units," although it has been translated into French, was obviously compiled for Bulgarian readers. It deals mainly with the defence of the Doiran area, three out of the six chapters being devoted to the trench warfare period there. The other chapters deal with: The operations in Macedonia in 1915; the operations on the Southern Front, March to December, 1916; with a last one, of ten pages only, on the final collapse.

The book is a curious mixture of patriotic sentiment and military details, and decidedly anti-German; all Bulgaria's misfortunes being attributed to her ally. There are a number of portraits and six maps.

## REGIMENTAL HISTORIES

**The Connaught Rangers, 2nd Battalion (formerly 94th Foot).** By Lieut.-Colonel H. F. N. Jourdain, C.M.G., and Edward Fraser. Vol. II. (London: Royal United Service Institution). 1926. 3 vols. 3 Guineas.

This volume deals with the entire history of the 2nd Battalion of the Connaught Rangers, from its creation as the 94th Foot down to its disbandment. It also deals with the 3rd and 4th (Militia) Battalions of the Rangers. The Great War occupies only some forty pages out of over 400 pages of this volume as the



2nd Battalion was amalgamated with the 1st after the first battle of Ypres. The 5th (Service) Battalion was later converted into the 2nd, but took little part in the war.

A painstaking and well written account of a regiment that has disappeared.

**The History of the 2/6th Lancashire Fusiliers: The Story of a 2nd Line Territorial Battalion, 1914-1919.** By Captain C. H. Potter, M.C., and Captain A. S. C. Fothergill. (The Observer General Printing Works, Rochdale). 1927.

This Battalion left England for active service Overseas in February, 1917. The volume contains a detailed and careful account of the operations in which it took part on the Western Front from that time until the Armistice. There are several large scale maps.

**The History of the Somerset Light Infantry (Prince Albert's), 1914-1919.** By Edward Wyrall; with a Foreword by H.R.H. The Duke of York, K.G. (London: Methuen & Co., Ltd.). 1927. 21s.

This volume contains the complete story of the regiment throughout the Great War. It is arranged in strict chronological order, the various battalions of the Regiment concerned being named in the margin. The result is most happy. There were twelve battalions of Somersets engaged in the Great War, from Mons to the Rhine, in Palestine, in Mesopotamia and also in the Third Afghan War. There are numerous photographs, maps, plans and tables. Altogether this is a model of what such a history can be.

**The Royal Montreal Regiment, 14th Battalion, C.E.F., 1914-1925.** Edited and Compiled by R. C. Featherstonhaugh. (Montreal: The Gazette Printing Co., Ltd.). 1927.

This is a well-balanced narrative of this Canadian battalion covering the entire period of the Great War on the Western Front. It includes an account of the mobilization of the battalion and of its re-organization after the war. Illustrated with photographs (ground and aerial), maps and plans.

**A Short History of "The Cinque Ports" 5th (Cinque Ports) Battalion, The Royal Sussex Regiment.** By E. A. C. Fazan. (Published by R. H. Wadeson, The Alpha Press, Wadhurst). 1s. 6d.

A summary of the story of this battalion from 1792 to the present day condensed into forty-four pages.

**A Famous Indian Regiment, The Kali Panchwin, 2/5th (formerly the 105th) Mahratta Light Infantry, 1768-1923.** By the late Colonel Sir Reginald Hennell, C.V.O., D.S.O., O.B.E. (London: John Murray). 1927. 12s.

This volume starts with the original raising of the Indian Army and follows the fortunes of this regiment down to the Great War, in which it figured at Kut-el-Amara and Baghdad and, later, in the final operations in Palestine.

## ADDITIONS TO THE LIBRARY

May, June, July, 1927.

### GENERAL

- WHAT'S WRONG WITH CHINA?** By Rodney Gilbert. 10s. 6d. 8vo. (John Murray.) London, 1926.
- THE INDECISIVENESS OF MODERN WAR AND OTHER ESSAYS.** By F. Holland Rose, Litt.D. 10s. 6d. 8vo. (G. Bell & Sons.) London, 1927. (Presented by the Publishers.)
- STONYHURST WAR RECORD.** By the Rev. Francis Irwin, S.J., late C.F., assisted by Cecil Chichester-Constable, M.C. 21s. 8vo. Stonyhurst College, 1927. (Presented by the Author.)
- INFORMATION ON THE PROBLEM OF SECURITY (1917-1926).** By J. W. Wheeler-Bennett and F. E. Langermann. 10s. 8vo. (George Allen & Unwin, Ltd.) London, 1927.
- AMERICA COMES OF AGE.** By André Siegfried. Translated by H. H. and D. Hemming. 12s. 6d. 8vo. (Jonathan Cape.) London, 1927.
- EUROPE AND THE EAST.** By Norman Dwight Harris. 20s. 8vo. (George Allen & Unwin, Ltd.) London, 1927.
- NAPOLEON.** By Emil Ludwig. Translated by Eden and Cedar Paul. 21s. 8vo. (George Allen & Unwin, Ltd.) London, 1927.
- MY WORKING LIFE.** By Colonel The Lord Sydenham of Combe, G.C.S.I., G.C.M.G. 21s. 8vo. (John Murray.) London, 1927. (Presented by the Publishers.)
- CHINA AND FOREIGN POWERS. AN HISTORICAL REVIEW OF THEIR RELATIONS.** By Sir Frederick Whyte, K.C.S.I. 2s. 6d. 8vo. (Oxford University Press.) London, 1927.
- LIGHT AND SHADE IN BYGONE INDIA.** By Lieutenant-Colonel L. H. Thornton, C.M.G., D.S.O. 15s. 8vo. (John Murray.) London, 1927.
- PEOPLES AND PROBLEMS OF THE PACIFIC.** By J. Macmillan Brown. 2 Vols. 50s. 8vo. (T. Fisher Unwin.) London, 1927.
- NAVIGATIONAL WIRELESS.** By S. H. Long, D.Sc., M.I.E.E. 12s. 6d. 8vo. (Chapman & Hall, Ltd.) London, 1927. (Presented by the Publishers.)
- A HISTORY OF EUROPE, 1871-1920.** By D. B. Horn. 4s. 6d. 8vo. (John Murray.) London, 1927.
- CHINA. THE FACTS.** By Lieutenant-Colonel P. T. Etherton. 12s. 6d. 8vo. (Ernest Benn, Ltd.) London, 1927.

NAVAL

- THE TRUTH ABOUT JUTLAND. By Rear-Admiral J. E. T. Harper, C.B., M.V.O. 5s. 8vo. (John Murray.) London, 1927. (Presented by the Publishers.)
- CORONEL AND THE FALKLANDS. By John Irving. 6s. 8vo. (A. M. Philpot, Ltd.) London, 1927. (Presented by the Publishers.)
- THE DIARY OF HENRY TEONGE, 1675-1679. By G. E. Manwaring. 12s. 6d. 8vo. (G. Routledge & Sons, Ltd.) London, 1927.
- NAVIES AND NATIONS. A REVIEW OF NAVAL DEVELOPMENTS SINCE THE GREAT WAR. By Hector C. Bywater. 12s. 8vo. (Constable & Co.) London, 1927.
- THE WAR AND THE SHIPPING INDUSTRY. By C. E. Fayle. 17s. 8vo. (Oxford University Press.) London, 1927. (Presented by the Publishers.)
- THE KEITH PAPERS. Vol. I. Edited by W. G. Perrin. 8vo. (Navy Records Society.) 1927.
- LETTERS OF LORD ST. VINCENT, 1801-1804. Vol. II. Edited by D. B. Smith. 8vo. (Navy Records Society.) 1927.
- THE LIFE OF SIR ALBERT HASTINGS MARKHAM. By M. E. & F. A. Markham. 15s. 8vo. (Cambridge University Press.) 1927. (Presented by the Publishers.)

MILITARY

- THE BATTLE OF MONMOUTH. By the late William S. Stryker. 21s. 8vo. (Princeton University Press.) 1927. (Presented by Mr. Humphrey Milford.)
- WOLFIANA. A POTPOURRI OF FACTS AND FANTASIES, CULLED FROM LITERATURE RELATING TO THE LIFE OF JAMES WOLFE. Arranged by John Clarence Webster. 8vo. Printed privately, 1927. (Presented by the Author.)
- ÆSCULAPIUS ARMAQUE. By Major M. B. H. Ritchie, R.A.M.C. 5s. 8vo. (John Bale, Sons & Danielsson, Ltd.) London, 1927. (Presented by the Publishers.)
- MESOPOTAMIA CAMPAIGN, 1914-1918. Vol. IV. Based on official documents by Brigadier-General F. J. Moberly, C.B., C.S.I., D.S.O. 8vo. 15s. (H.M. Stationery Office.) London, 1927. (Presented by the Director of Publications.)
- LES ARMÉES FRANÇAISES DANS LA GRANDE GUERRE. Tome III, with 4 Annexes. Issued by Ministère de la Guerre. £6 15s. 8vo. Imprimerie Nationale, Paris.
- TASCHENBUCH DER TANKS. By von Ingenieur Fritz Heigl. 8vo. (J. F. Lehmann.) München, 1927. (Presented by the Publishers.)
- THE REMAKING OF MODERN ARMIES. By Captain B. H. Liddell Hart. 10s. 6d. 8vo. (John Murray.) London, 1927. (Presented by the Publishers.)
- THE DRESS OF THE FIRST REGIMENT OF LIFE GUARDS IN THREE CENTURIES. By U. H. R. Broughton (late 1st Life Guards). £8 8s. 4to. (Halton & Truscott Smith, Ltd.) London, 1925. (Presented by Captain P. R. Astley, M.C., late 1st Life Guards.)

DIVISIONAL HISTORIES

- HISTORY OF THE 60TH DIVISION. By Colonel P. H. Dalbiac, C.B., T.D. 21s. 8vo. (George Allen & Unwin, Ltd.) London, 1927.

## REGIMENTAL HISTORIES

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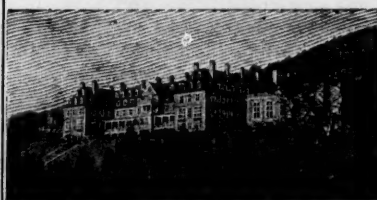
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